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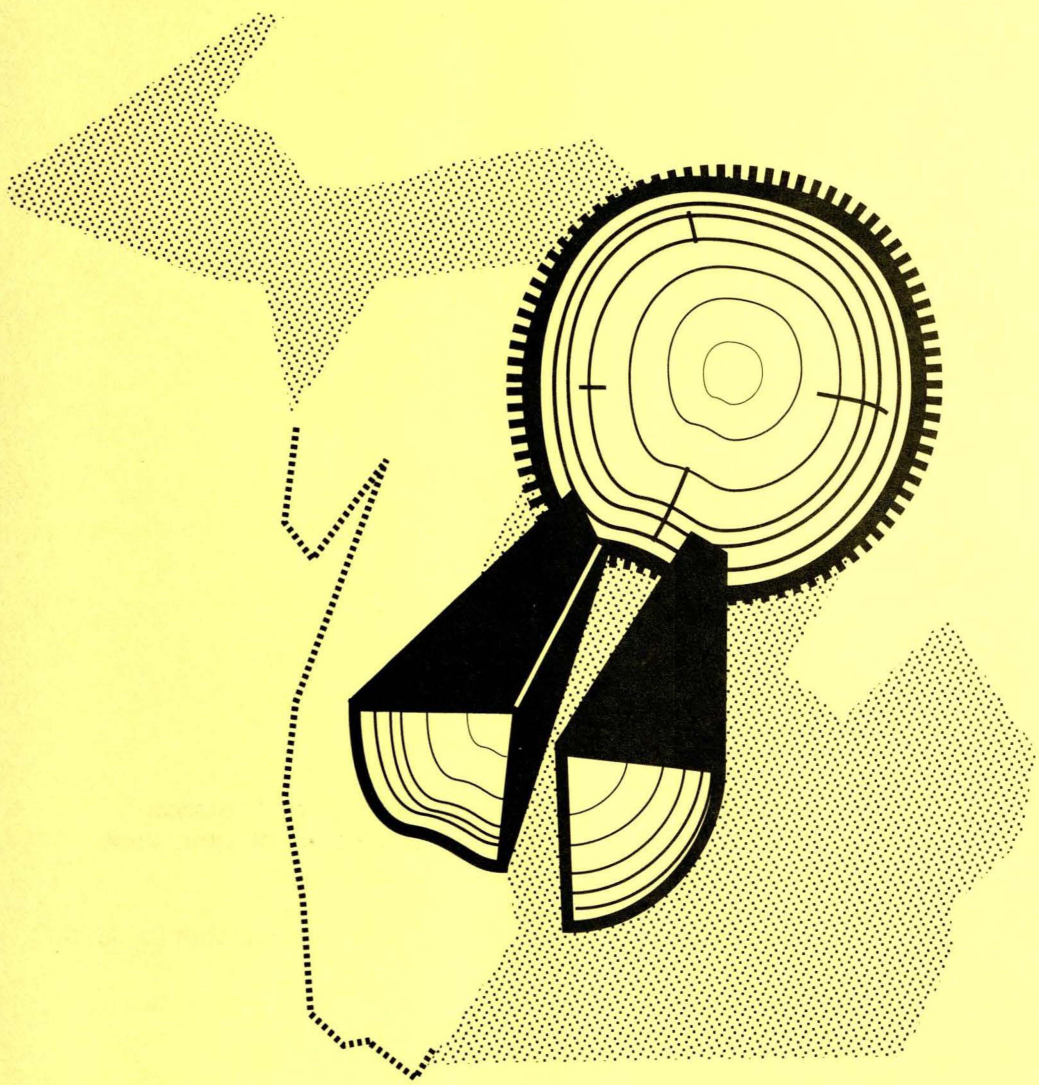
Production and Sources of Residential Fuelwood From Roundwood in Michigan

W. Brad Smith and Anthony Weatherspoon



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CONTENTS

	Page
Highlights	1
Historical Fuelwood Demand	1
Need for a Production Study	2
Analysis of Production	2
Summary and Conclusions	4
Study Methods	6
Households	6
Commercial Producers	7
Appendix	7
Sampling Error	7
Study Limitations	8
Definition of Terms	8
Common and Scientific Names of Tree Species Mentioned	9
Tables	10

FOREWORD

This bulletin contains the results of a detailed study of 1986 residential fuelwood production and sources in Michigan. Such detailed information is necessary for intelligent planning and decisionmaking in wood procurement, forest resource management, and forest industry development. Likewise, researchers need current fuelwood production information for planning projects. This report *does not* include information about harvesting for industrial fuelwood. Such information is included in reports covering wood use by primary processing plants.

Special thanks are given to the Michigan households and commercial fuelwood producers that supplied information for this study. Their cooperation is greatly appreciated.

We acknowledge with special thanks the Michigan Department of Natural Resources (MDNR) and its contractors for their diligence in phoning and obtaining answers from these households and commercial fuelwood producers.

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HIGHLIGHTS

NOTE: This report contains only information about fuelwood cut for residential fuelwood by households and commercial loggers. Information about fuelwood cut for industrial use and fuelwood originating from mill residues is not included in this report.

- Total residential fuel production from roundwood in 1986 was 1.5 million standard cords.
- More than 94 percent of residential fuelwood was cut by households; the remainder was cut by commercial producers.
- Oak and maple comprised 53 percent of the fuelwood cut.
- Private land supplied 88 percent of the fuelwood cut.
- Rural woodland furnished 74 percent of all residential fuelwood harvested.
- Of the remaining 26 percent cut from other land classes, 7 percent came from cities and villages; 14 percent came from fence rows, windbreaks, and rural yards; and 5 percent came from pasture, cropland, and other sources.
- Growing stock on timberland was a minor source of fuelwood statewide. An estimated 383 thousand cords (26 percent) came from growing stock on timberland. This differs by region, however, and in the Eastern Upper Peninsula Unit 46 percent of the 98 thousand cords of fuelwood harvested were from growing stock.
- Dead trees on timberland provided 26 percent of the fuelwood. Nongrowing stock on timberland was equally as important for fuelwood as growing stock.
- Commercial producers harvested nearly twice as much from growing stock as did households.

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Anthony Weatherspoon, Utilization and Marketing Unit Leader, received a B.S. degree in wood science and technology from Colorado State University. After persuing graduate studies in wood science at Colorado State he was employed by St. Regis Paper company in 1978. He joined the Michigan Department of Natural Resources in 1985 as the Unit Leader for Marketing and

HISTORICAL FUELWOOD DEMAND

Until the late 1800's, wood was the primary source of energy in the United States, but by 1900 wood provided only about 25 percent of this country's energy. Between 1949 and 1974, fuelwood use declined steadily for utilities, residences, and commercial businesses, although industrial fuelwood use increased steadily during that period. Wood supplied only 0.40 quads (0.40 quadrillion BTU's) or 2 percent of U.S. energy in 1972, the year before the Arab embargo sent oil prices spiraling upward. Between 1974 and 1981, spurred by higher prices for fossil fuels such as coal, oil, and natural gas, Americans increased their overall use of wood

fuels by 45 percent, according to the United States Department of Energy (DOE). In 1986 wood furnished about 0.78 quads of energy, approximately 1.5 percent of the Nation's total energy consumption.

Researchers at the Forest Products Laboratory of the USDA Forest Service estimate that American households burned 39 million cords of fuelwood during the 1985-1986 heating season, an amount equal to 15 percent of the Nation's total timber harvest[1]. Since 1980 residential fuelwood consumption has declined about 4 percent nationally, but is expected to rebound. Demand for residential fuelwood is expected to exceed 50 million cords annually by the year 2010.

NEED FOR A PRODUCTION STUDY

Several questions have been asked about the magnitude of the fuelwood harvest and its impact on the forest resource. How much fuelwood is harvested from forest land? urban areas? fencerows and windbreaks? pastures and cropland? How much fuelwood comes from public land? Does most of the fuelwood come from growing stock? Are dead trees an important source? Are commercial fuelwood producers a major source of fuelwood? What are the principal species cut? Where are the principal fuelwood-producing areas in Michigan? Are saw log markets threatened by fuelwood producers?

To answer these and other related questions in Michigan, a cooperative study of fuelwood production from roundwood was completed in 1986 by the North Central Forest Experiment Station and the Michigan Department of Natural Resources.

ANALYSIS OF PRODUCTION

The Southern Lower Peninsula Survey Unit supplied 52 percent of the 1.5 million cords of fuelwood cut from roundwood in 1986, the Northern Lower Peninsula Unit supplied 33 percent, and the Upper Peninsula Units suppled the remaining 15 percent.

Households cut all but 79 thousand cords in 1986. Harvesting by commercial producers was proportionally greatest in the Northern Lower Peninsula Unit:

Survey Unit	Production		
	Households	Loggers	Total
	(Thousand cords)		
Eastern U.P.	93.1	4.5	97.6
Western U.P.	113.1	10.3	123.4
Northern L.P.	442.9	54.1	497.0
Southern L.P.	769.9	10.4	780.3

Oak and maple were the principal fuelwood species, accounting for 53 percent of the total. Leading species cut were:

Species	Volume *(Thousand cords)*	Percent
Red oak	296.5	20
Soft maple	230.0	15
Elm	175.4	12
Hard maple	165.8	11
White oak	99.0	7
Aspen	80.4	5

No other individual species supplied more than 80 thousand cords. Softwoods supplied less than 2 percent of the total.

Private land provided 88 percent of the fuelwood cut. Public land furnished more than 20 percent in each of the Upper Peninsula Units (fig. 1).

[1] *From "Current and projected wood energy consumption in the United States" by Colin High of Dartmouth College and Ken Skog of the USDA Forest Products Laboratory for publication in the Proceedings of the IGT Conference on Energy from Biomass and Wastes XIII. (Draft)*

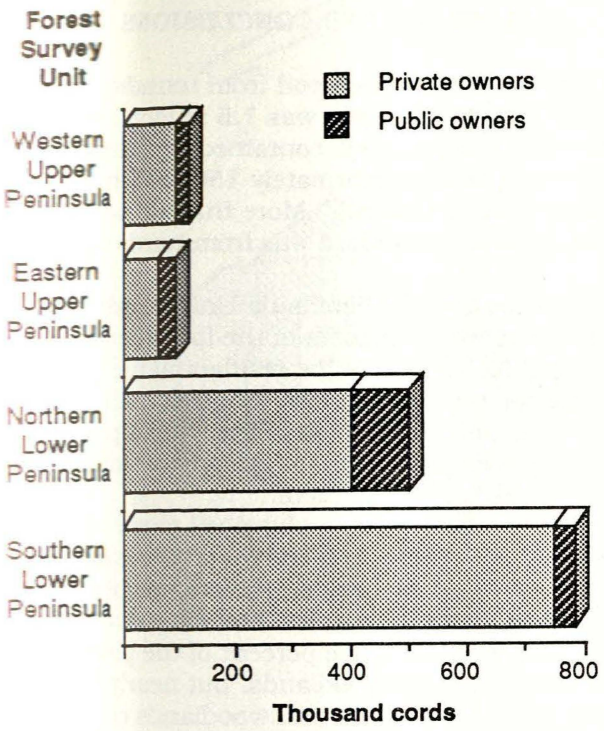

Figure 1.—*Residential fuelwood production from roundwood by Forest Survey Unit and major owner class.*

State land was the chief source of fuelwood from the public sector:

Public land class	Fuelwood volume (Thousand cords)	(Percent)
State	103.7	57
County and municipal	39.0	21
National forest	38.0	21
Other Federal	1.5	1
Total	182.2	100

Oak and maple were the primary species cut on State land.

Rural woodlands[2] supplied 3 out of every 4 cords of residential fuelwood in the State. The remainder came from diverse sources such as cities and villages; windbreaks, fencerows, and yards of homes in rural areas; and pasture and cropland. Rural woodland supplied more than 94 percent

[2] *Rural woodland was assumed to be timberland for analysis.*

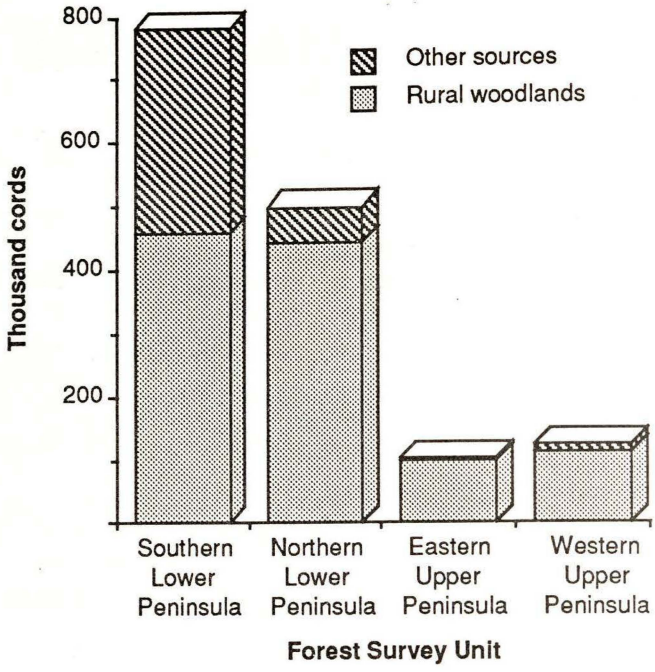

Figure 2.—*Residential fuelwood production from roundwood by Forest Survey Unit and major source of material.*

of the fuelwood in the more heavily forested Upper Peninsula Units (fig. 2).

Of the 26 percent of fuelwood harvested on noncommercial forest and nonforest areas, 7 percent came from cities and villages; 13 percent came from fencerows, windbreaks, and rural yards; and 6 percent came from pasture, cropland and other sources. Elm, red oak, and soft maple were the principal fuelwood species cut on each of these land classes.

Eighty-four percent of all residential fuelwood produced from nontimberland sources came from the more heavily urbanized Southern Lower Peninsula Unit.

Growing stock (see definitions) on timberland was not the major source of fuelwood on a statewide basis. Of the 1.5 million cords of residential fuelwood cut from roundwood, an estimated 383 thousand cords (26 percent) came from growing stock on timberland. Producers cut another 722 thousand cords (48 percent) from nongrowing stock on timberland:

Source	Volume (Thousand cords)	Percent of total
Growing stock on timberland	383	26
Tops and limbs of growing stock trees	275	18
Cull trees and cull sections of growing stock trees	38	3
Dead trees on timberland	406	27
Saplings	2	—[3]
All trees on nonforest and nontimberland	394	26
Total	1,498	100

None of the Units harvested large quantities of growing stock on timberland for fuelwood. The highest proportion cut from growing stock was in the Eastern Upper Peninsula Unit:

Unit	Growing stock volume (Thousand cords)	Percent of Unit total
Eastern Upper Peninsula	45	46
Western Upper Peninsula	31	25
Northern Lower Peninsula	134	27
Southern Lower Peninsula	173	22
State total	383	26

Sixty-one counties produced more than 1,000 cords of fuelwood from growing stock (fig. 3). Two counties—Ionia and Chippewa—cut more than 20,000 cords from growing stock in 1986.

Harvesting of dead trees on timberland for fuel became progressively heavier from north to south, ranging from 16 percent of fuelwood cut in the Eastern Upper Peninsula to 52 percent in the Southern Lower Peninsula. Red oak and elm were the primary species of dead trees harvested.

For reporting purposes, the volumes of several miscellaneous species were combined into the aggregate groups of "other hardwood" and "noncommercial" species. These data were considered too weak to report at the county level. Table 4 shows the distribution of these species as reported by households on a Survey Unit basis.

[3] *Less than 0.5 percent.*

SUMMARY AND CONCLUSIONS

Total production of fuelwood from roundwood during 1986 in Michigan was 1.5 million cords. This volume of fuelwood contained sufficient heat value to replace approximately 150 million gallons of No. 2 fuel oil[4]. More than 98 percent of the fuelwood produced was from hardwoods.

The Southern Lower Peninsula Unit, which contains about 18 percent of the forest land, produced 52 percent of the residential fuelwood. The denser population in the Southern Lower Peninsula Unit (88 percent of the State's population) was a major reason for the greater intensity of fuelwood harvesting there.

Households outproduced commercial cutters by a ratio of 20 to 1 statewide. Private nonforest and nontimberland was the chief source of fuelwood. Seventy-three percent of the production was from rural woodlands, but nearly 1 out of every 3 cords cut on rural woodlands came from dead trees.

Growing stock on timberland was not the major source of fuelwood, accounting for only 26 percent of the production. Nongrowing stock on timberland was twice as important for fuelwood as growing stock. Dead trees on timberland accounted for nearly 4 out of 10 cords of fuelwood produced.

Commercial producers cut a nominal amount of residential fuelwood in 1986. However, for a given quantity of fuelwood, commercial producers cut three times as much from growing stock on timberland as households cut. If commercial producers become more important suppliers of residential fuelwood, the percentage of growing stock in the mix of fuelwood will probably rise.

Some forest managers and wood procurement managers in Michigan may fear that large quantities of fuelwood are being cut from growing stock that previously would have been used for saw logs and other forest products. Our study results should relieve some of their concerns.

[4] *In comparing heat value between fuels, a factor to consider is the energy required to produce and deliver the fuels to the consumer.*

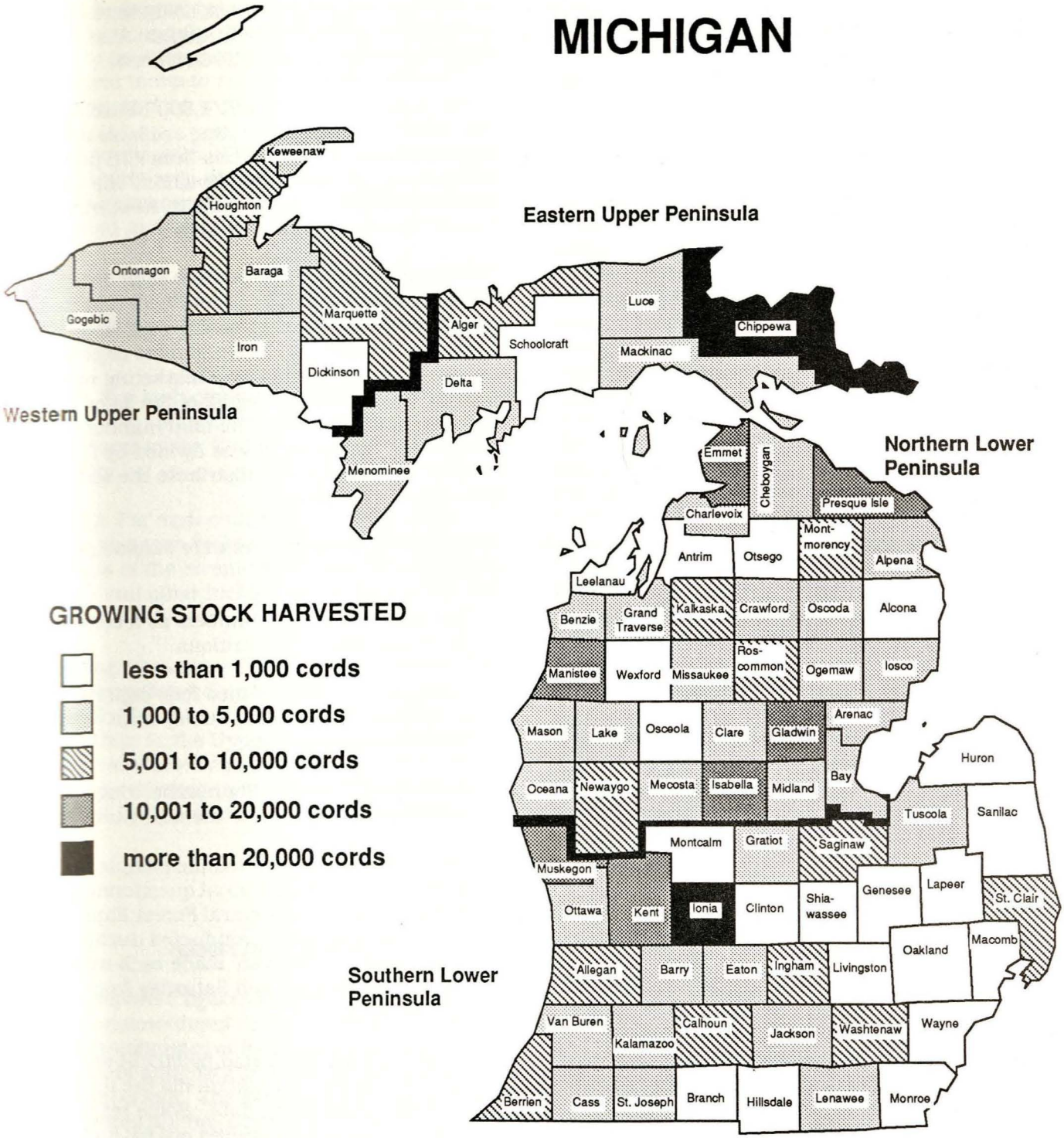

Figure 3.—*Growing stock harvest for residential fuelwood from rural woodlands (timberland) in Michigan, 1986.*

Much of the fuelwood is from dead trees unlikely to be suitable for other products and from trees on nonforest and nontimberland that are not generally a forest industry supply source. Large quantities of dead trees as well as tops and limbs, and trees on nonforest land will be available each year for fuelwood use.

During the next 5 to 10 years, growing stock is likely to become an increasing source of Michigan fuelwood, but primarily for industrial rather than residential use. Follow-up fuelwood studies at 5-year intervals would be useful in determining trends in harvesting growing stock for fuel. Monitoring changes in industrial fuelwood production will be of great importance in determining the proportion of fuelwood cut from growing stock on timberland.

Use of dead and cull trees on timberland for fuel can also contribute to forest productivity increases. As demand for fuelwood increases, more of these trees can be removed for a profit as fuel without need for subsidized incentives. Consequently, less money may be required for a given level of timber stand improvement than if fuelwood demand had remained at low levels.

STUDY METHODS

Data for this publication came from sampling Michigan households and canvassing all known commercial fuelwood producers with formal questionnaires approved by the Federal Office of Management and Budget.

Households

The respondent universe was all households in Michigan with listed telephones. Michigan was divided into three districts: (1) the Upper Peninsula, containing 107 thousand households; (2) the Northern Lower Peninsula, containing 280 thousand households; and (3) the Southern Lower Peninsula, containing 2.7 million households. The latter district includes the Detroit metropolitan area. County population and data on number of occupied households were obtained from the Michigan Statistical Abstract, Nineteenth Edition 1985, 1980 Census.

A total sample size of about 4,600 households was selected based on funding available and a desired standard error of less than ±10 percent statewide at one standard deviation. The sample size ranged from 8 households in Keweenau County to 960 in Wayne County .

The number of interviews within each district was apportioned to each Survey Unit and county within the district, based on the population and occupied households. A random list of phone numbers was generated by a marketing research firm for each county using all of the listed three-digit phone exchanges. The total number of samples for each county was divided by the number of exchanges to distribute the sample throughout the county.

The telephone interviewers were instructed as follows:

1. Use only residential numbers as a contact—No businesses or institutions.

2. Assign the pre-determined four-digit number to each cover sheet and survey form to identify the sampling unit.

3. Make no call backs. If a number rings but no one answers, proceed to the next number.

MDNR personnel interviewed the sample households by phone using a formal questionnaire prepared by the North Central Forest Experiment Station. The survey was conducted during May and June 1986. Calls were made each weekday from 6:00 to 9:00 p.m. and Saturday from 9:00 a.m. to 9:00 p.m.

Initial editing was completed by MDNR personnel. The North Central Station did the final editing and compiled the data. Some respondents did not know the species cut for fuel,

except in general terms such as mixed hardwoods, oak, maple. Some assumptions were made to facilitate prorating the volume reported in general terms to specific species by county. The assumptions were:

Mixed hardwoods: For each county, prorate mixed hardwoods proportionately to each of the hardwood species specifically identified as being harvested in that county.

Oak: For each county in a Survey Unit, prorate to white and red oak on the basis of the inventory volume in the Unit at the time of the last inventory.

Maple: For each county in a Survey Unit, prorate to hard and soft maple on the basis of the inventory volume in the Unit at the time of the last inventory.

Hickory: For each county in a Survey Unit, prorate to pecan hickory and other hickory on the basis of the inventory volume for select hickory and other hickory at the time of the last inventory.

Sampling rates were about twice as high in the heavily populated Southern Lower Peninsula as in the Northern Lower Peninsula and four times higher than in the Upper Peninsula. Expansion factors were determined for households in each district by dividing the number of households in a district by the number of sample households in that district. The factors were roughly 800 in the Southern Lower Peninsula, 400 in the Northern Lower Peninsula, and 200 in the Upper Peninsula. These expansion factors were used to estimate the total fuelwood production by households in each county.

Commercial Producers

A full list of potential commercial fuelwood producers was compiled for each county by the MDNR. Using a formal questionnaire similar to that used for households, MDNR personnel canvassed all of these commercial producers by phone during the spring of 1986. Possible duplicate sampling of commercial producers was minimized by questioning all sample households producing more than 20 cords of fuelwood to determine if they were commercial producers.

For estimating growing stock on timberland harvested for fuel, "rural woodland" (woodland outside city and village limits) was assumed to be timberland. Logging utilization factors for fuelwood were used in estimating the quantity of growing stock cut for fuelwood on timberland. The Station developed these factors in Michigan during 1964-1965 by measuring trees cut for fuelwood on active harvesting operations. For fuelwood cut from live trees on timberland, 63 percent was estimated to be growing stock sections. For fuelwood cut or collected from logging residue on timberland, an estimated 27 percent was growing stock sections.

APPENDIX

SAMPLING ERROR

All the reported figures are estimates based on sampling procedures that are designed to give accurate estimates of fuelwood production. A measure of reliability of these figures is given by sampling errors. The sampling error means that the chances are two out of three that the results for the sample differ by no more than the amount indicated from the results that would have been obtained if a 100 percent sample of all households and commercial producers had been made.

Sampling error for fuelwood production was ± 8.6 percent on a volume of 1.5 million cords.

Sampling errors by sample unit were as follows:

Sample Unit	Volume *(Thousand cords)*	Error *(Percent)*
Upper Peninsula	221.1	17.0
Northern Lower Peninsula	497.0	11.2
Southern Lower Peninsula	780.3	14.0
All Units	1,498.4	8.6

STUDY LIMITATIONS

Two components of total fuelwood production are not included in this report. First, fuelwood produced from wood residue generated at primary wood-using mills (such as sawmills and cooperage mills) is not included. However, a cooperative Michigan primary wood-using mill study by the Michigan Department of Natural Resources and the North Central Forest Experiment Station will provide an estimate of fuelwood produced from primary mill residue. Information on this source of fuelwood will be published in another paper.

Second, fuelwood produced from wood residue generated at secondary wood-using mills (such as millwork plants, furniture plants, and office and store fixture manufacturers) was not estimated. Secondary wood-using mill residue is a minor source of fuelwood that has no direct impact and only a nominal indirect influence on the forest resource used for fuel.

Households without listed telephones were not sampled. Study results may be slightly biased if the fuelwood harvest per household without listed phones is significantly different in quantity or sources from the fuelwood harvest per household with listed phones. Harvesting characteristics by these two groups was assumed to be similar, and expansion factors for estimating total fuelwood production took into account all households in Michigan.

Each sample household was asked how much fuelwood it cut during the previous 12 months. Each commercial producer was asked a similar question. Because the study was conducted during 2 months in 1986, the actual fuelwood harvest was for varying 12-month periods in 1985 and 1986 depending on when the respondent was called. For this paper, production has been dated from the 1986 heating season for ease of discussion and because the exact date does not affect the analysis or findings significantly.

DEFINITION OF TERMS

County and municipal land.—Land owned by counties and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

Forest industry land.—Land owned by companies or individuals operating primary wood-using mills.

Growing-stock trees.—Live trees of commercial species qualifying as desirable and acceptable trees. Excludes rough cull and rotten cull trees.

Growing-stock volume.—Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over, from a 1-foot stump to a minimum 4.0 inch top diameter outside bark of the central stem.

Indian land.—Tribal land held in fee but administered by the Federal Government.

Logging residue.—The unused portions of trees cut or killed by logging.

National Forest land.—Federal land that has been legally designated as National Forest or purchase units, and other land under the administration of the USDA Forest Service.

Nonforest land.—Land that has never supported forests, and land formerly forested where use for timber management is precluded by development for other uses. Includes areas used for crops, improved pasture, residential areas, city parks, improved roads of any width and adjoining clearings, power line clearings of any width and 1- to 40-acre areas of water classified by the Bureau of the Census as land.

Poletimber trees.—Growing-stock trees of commercial species at least 5.0 inches d.b.h., but smaller than sawtimber size.

Primary wood-using mills.—Mills receiving roundwood or chips from roundwood for processing into products.

Primary wood-using mill residue.—Wood materials (coarse and fine) and bark generated at manufacturing plants from roundwood processed into principal products. These residues include wood products (byproducts) obtained incidental to production of principal products and wood materials not utilized for some product.

Coarse mill residue.—Wood residue suitable for chipping such as slabs, edgings, and veneer cores.

Fine mill residue.—Wood residue not suitable for chipping such as sawdust and veneer clippings.

Roundwood.—Logs and bolts from harvested trees including chips from harvested trees.

Saw log portion.—That part of the bole of sawtimber trees between the stump and the saw log top.

Saw log top.—The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber trees.—Growing-stock trees of commercial species containing at least a 12-foot saw log or two noncontiguous saw logs 8 feet or longer, and meeting regional specifications for freedom from defect. Softwoods must be at least 9.0 inches d.b.h. Hardwoods must be at least 11.0 inches d.b.h.

Standard cord.—A pile of logs 4x4x8 feet (128 cubic feet including air space and bark). A cord of fuelwood contains 70 cubic feet of wood and 58 cubic feet of bark and air space.

State land.—Land owned by States or land leased to these governmental units for 50 years or more.

Timberland.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization. Areas qualifying as timberland have the capability of producing in excess of 20 cubic feet per acre per year of annual growth under management. Currently inaccessible and inoperable areas are included, except when the areas involved are small and unlikely to become suitable for production of industrial wood in the foreseeable future. In this paper, "woodland areas outside city or village limits (rural woodland)" were assumed to be timberland.

Upper stem portion.—That part of the bole of sawtimber trees above the saw log top to a minimum top diameter of 4.0 inches outside bark.

COMMON AND SCIENTIFIC NAMES OF TREE SPECIES MENTIONED

SOFTWOODS
Cedar ..... *Thuja occidentalis*
Balsam fir ..... *Abies balsamea*
Spruce
  White spruce ..... *Picea glauca*
  Black spruce ..... *Picea mariana*
Hemlock ..... *Tsuga canadensis*
White pine ..... *Pinus strobus*
Red pine ..... *Pinus resinosa*
Jack pine ..... *Pinus banksiana*
Tamarack ..... *Larix laricina*

HARDWOODS
Ash
  Black ash ..... *Fraxinus nigra*
  White ash ..... *Fraxinus americana*
Aspen
  Bigtooth aspen ..... *Populus grandidentata*
  Quaking aspen ..... *Populus tremuloides*
Balsam poplar ..... *Populus balsamifera*
American basswood ..... *Tilia americana*
Paper birch ..... *Betula papyrifera*
Beech ..... *Fagus grandifolia*
Yellow birch ..... *Betula alleghaniensis*
Cottonwood ..... *Populus deltoides*
Elm
  American elm ..... *Ulmus americana*
  Rock elm ..... *Ulmus thomasii*
  Slippery elm ..... *Ulmus rubra*
Hickory
  Bitternut hickory ..... *Carya cordiformis*
  Pignut hickory ..... *Carya glabra*
  Shagbark hickory ..... *Carya ovata*
Hard maple
  Black maple ..... *Acer nigrum*
  Sugar maple ..... *Acer saccharum*
Soft maple
  Red maple ..... *Acer rubrum*
  Silver maple ..... *Acer saccharinum*
Red oak
  Northern red oak ..... *Quercus rubra*
  Black oak ..... *Quercus velutina*
  Pin oak ..... *Quercus palustris*
White oak
  White oak ..... *Quercus alba*
  Bur oak ..... *Quercus macrocarpa*
  Chinkapin oak ..... *Quercus muehlenbergii*

Swamp white oak ..... *Quercus bicolor*
Black walnut ..... *Juglans nigra*
Yellow-poplar ..... *Liriodendron tulipifera*
Other hardwoods
Honeylocust ..... *Gleditsia triacanthos*
Black locust ..... *Robinia pseudoacacia*
Black willow ..... *Salix nigra*
Boxelder ..... *Acer negundo*
Black cherry ..... *Prunus serotina*
Sycamore ..... *Platanus occidentalis*
Mulberry ..... *Morus* spp.
Noncommercial
Apple ..... *Malus* spp.
Plum ..... *Prunus* spp.
Pear ..... *Pyrus* spp.
Ironwood ..... *Ostrya virginiana*
Russian olive ..... *Elaeagnus angustifolia*
Dogwood ..... *Cornus* spp.

TABLE TITLES

Table 1.—Fuelwood production from roundwood by Forest Survey Unit, county, species group, and source of material, Michigan, 1986

Table 2.—Fuelwood production from roundwood by Forest Survey Unit, county, species group, and owner class, Michigan, 1986

Table 3.—Fuelwood production from roundwood by Forest Survey Unit, county, and source of material, Michigan, 1986

Table 4.—Fuelwood production distribution for other hardwood and noncommercial species groups by individual species and Forest Survey Unit, Michigan, 1986

Table 1.--Fuelwood production from roundwood by Forest Survey Unit, county, species group, and source of material, Michigan, 1986

(In standard cords)

ALL UNITS

Species group	Source of fuelwood							
					Rural woodlands			
	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Standing live trees	Logging waste	Dead trees	Other sources
	All Counties							
Cedar	641	196	--	--	--	237	208	--
Balsam fir	2,349	--	1,599	--	296	--	454	--
Hemlock	821	--	--	--	38	49	734	--
Jack pine	4,878	147	756	--	2,853	211	911	--
Red pine	8,552	1,231	1,513	7	1,315	284	2,283	1,919
White pine	1,755	10	322	197	695	87	444	--
Spruce	2,005	--	--	--	1,780	--	225	--
Total	21,001	1,584	4,190	204	6,977	868	5,259	1,919
Ash	69,016	1,021	6,958	1,854	36,655	2,558	19,220	750
Aspen	80,371	5,519	8,771	1,789	26,217	3,142	34,305	628
Balsam poplar	1,838	1,797	--	24	10	--	7	--
Basswood	9,327	--	1,573	307	4,268	103	2,943	133
Beech	68,524	444	3,811	1,853	30,646	10,736	19,535	1,499
Paper birch	76,165	3,547	539	6,060	36,963	17,498	11,518	40
Yellow birch	14,637	738	100	467	7,184	4,316	1,824	8
Cottonwood	12,188	1,856	5,468	3,125	497	81	1,161	--
Elm	175,364	20,113	24,379	5,478	33,384	17,265	72,918	1,827
Hickory	15,611	115	2,812	266	5,092	3,594	3,172	560
Hard maple	165,777	5,360	10,746	4,277	79,688	28,829	35,565	1,312
Soft maple	230,043	12,053	26,210	5,942	105,615	30,009	45,726	4,488
Red oak	296,520	14,543	28,870	7,949	104,002	24,095	111,949	5,112
White oak	99,003	10,042	18,540	3,620	36,881	4,373	23,534	2,013
Walnut	4,533	108	1,911	507	527	951	529	--
Other hardwoods	125,930	22,238	56,014	3,908	20,913	9,214	12,995	648
Noncommercial	32,562	3,208	4,147	6,037	4,705	452	4,176	9,837
Total	1,477,409	102,702	200,849	53,463	533,247	157,216	401,077	28,855
All species	1,498,410	104,286	205,039	53,667	540,224	158,084	406,336	30,774

(Table 1 continued on next page)

(Table 1 continued)

EASTERN UPPER PENINSULA

Species group	All sources	Source of fuelwood: Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
Alger County								
Ash	216	--	--	--	216	--	--	--
Aspen	40	--	--	--	40	--	--	--
Beech	3,536	--	--	--	1,063	2,374	99	--
Paper birch	1,409	--	--	--	199	1,186	24	--
Yellow birch	268	--	--	--	38	226	4	--
Elm	1,505	--	--	46	789	313	357	--
Hard maple	5,711	--	--	31	3,777	1,212	691	--
Soft maple	5,060	--	--	27	3,347	1,073	613	--
Other hardwoods	766	--	--	--	539	63	164	--
Noncommercial	27	--	--	--	21	2	4	--
All species	18,538	--	--	104	10,029	6,449	1,956	--
Chippewa County								
White pine	297	--	--	--	297	--	--	--
Spruce	1,484	--	--	--	1,484	--	--	--
Total	1,781	--	--	--	1,781	--	--	--
Ash	11,871	--	--	--	11,871	--	--	--
Aspen	1,077	--	--	--	139	779	159	--
Beech	223	--	--	--	223	--	--	--
Paper birch	3,533	--	33	--	3,153	47	300	--
Yellow birch	673	--	6	--	601	9	57	--
Hard maple	9,598	--	84	--	9,093	147	274	--
Soft maple	8,511	--	74	--	8,063	131	243	--
Red oak	19	--	--	--	--	--	19	--
Total	35,505	--	197	--	33,143	1,113	1,052	--
All species	37,286	--	197	--	34,924	1,113	1,052	--
Delta County								
Jack pine	594	--	594	--	--	--	--	--
Total	594	--	594	--	--	--	--	--
Ash	234	--	--	--	229	3	2	--
Aspen	934	--	--	--	299	299	336	--
Beech	301	--	--	--	218	81	2	--
Paper birch	1,795	--	--	--	1,280	341	174	--
Yellow birch	344	--	--	--	245	66	33	--
Elm	2,629	--	152	--	358	274	1,845	--
Hard maple	1,977	--	--	--	1,365	383	229	--
Soft maple	1,752	--	--	--	1,213	339	200	--
Other hardwoods	96	--	--	--	94	1	1	--
Noncommercial	33	--	--	--	33	--	--	--
Total	10,095	--	152	--	5,334	1,787	2,822	--
All species	10,689	--	746	--	5,334	1,787	2,822	--

(Table 1 continued on next page)

(Table 1 continued)

EASTERN UPPER PENINSULA

Species group	Source of fuelwood							
					Rural woodlands			
	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Standing live trees	Logging waste	Dead trees	Other sources
Luce County								
Beech	3,177	--	--	--	1,977	1,200	--	--
Hard maple	866	--	--	--	--	866	--	--
Soft maple	768	--	--	--	--	768	--	--
All species	4,811	--	--	--	1,977	2,834	--	--
Mackinac County								
Cedar	196	196	--	--	--	--	--	--
Total	196	196	--	--	--	--	--	--
Aspen	2	2	--	--	--	--	--	--
Beech	1,484	--	--	--	928	212	344	--
Paper birch	1,339	--	--	--	1,225	43	71	--
Yellow birch	255	--	--	--	233	8	14	--
Elm	950	--	--	--	--	--	950	--
Hard maple	3,802	--	--	--	2,689	29	1,084	--
Soft maple	3,371	--	--	--	2,384	25	962	--
Total	11,203	2	--	--	7,459	317	3,425	--
All species	11,399	198	--	--	7,459	317	3,425	--
Menominee County								
Cedar	208	--	--	--	--	--	208	--
Balsam fir	50	--	--	--	--	--	50	--
Spruce	158	--	--	--	--	--	158	--
Total	416	--	--	--	--	--	416	--
Ash	625	--	--	--	414	53	158	--
Aspen	364	--	--	--	184	--	180	--
Beech	524	--	--	--	379	--	145	--
Paper birch	860	--	--	--	491	--	369	--
Yellow birch	163	--	--	--	94	--	69	--
Elm	3,229	--	--	--	379	--	2,850	--
Hard maple	2,497	--	--	--	1,421	509	567	--
Soft maple	2,217	--	--	--	1,261	452	504	--
Other hardwoods	94	--	--	--	41	53	--	--
Noncommercial	128	--	--	--	122	--	6	--
Total	10,701	--	--	--	4,786	1,067	4,848	--
All species	11,117	--	--	--	4,786	1,067	5,264	--
Schoolcraft County								
Beech	1,087	--	--	--	272	--	815	--
Paper birch	166	--	--	--	--	166	--	--
Yellow birch	32	--	--	--	--	32	--	--
Hard maple	1,328	--	--	--	96	944	288	--
Soft maple	1,178	--	--	--	85	837	256	--
All species	3,791	--	--	--	453	1,979	1,359	--

(Table 1 continued on next page)

(Table 1 continued)

EASTERN UPPER PENINSULA

Species group	Source of fuelwood							
	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands			Other sources
					Standing live trees	Logging waste	Dead trees	
	All Counties							
Cedar	404	196	--	--	--	--	208	--
Balsam fir	50	--	--	--	--	--	50	--
Jack pine	594	--	594	--	--	--	--	--
White pine	297	--	--	--	297	--	--	--
Spruce	1,642	--	--	--	1,484	--	158	--
Total	2,987	196	594	--	1,781	--	416	--
Ash	12,946	--	--	--	12,730	56	160	--
Aspen	2,417	2	--	--	662	1,078	675	--
Beech	10,332	--	--	--	5,060	3,867	1,405	--
Paper birch	9,102	--	33	--	6,348	1,783	938	--
Yellow birch	1,735	--	6	--	1,211	341	177	--
Elm	8,313	--	152	46	1,526	587	6,002	--
Hard maple	25,779	--	84	31	18,441	4,090	3,133	--
Soft maple	22,857	--	74	27	16,353	3,625	2,778	--
Red oak	19	--	--	--	--	--	19	--
Other hardwoods	956	--	--	--	674	117	165	--
Noncommercial	188	--	--	--	176	2	10	--
Total	94,644	2	349	104	63,181	15,546	15,462	--
All species	97,631	198	943	104	64,962	15,546	15,878	--

(Table 1 continued on next page)

(Table 1 continued)

WESTERN UPPER PENINSULA

Species group	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
			Source of fuelwood					
Baraga County								
Ash	803	--	401	--	--	--	402	--
Paper birch	308	--	--	--	250	41	17	--
Yellow birch	174	--	--	--	140	24	10	--
Elm	158	--	--	--	150	--	8	--
Hard maple	3,472	--	--	--	2,161	1,128	183	--
Soft maple	1,560	--	--	--	971	508	81	--
Other hardwoods	396	--	198	--	--	--	198	--
All species	6,871	--	599	--	3,672	1,701	899	--
Dickinson County								
Jack pine	3	--	--	--	--	3	--	--
Red pine	2	--	--	--	--	2	--	--
White pine	72	--	--	--	--	1	71	--
Spruce	63	--	--	--	--	--	63	--
Total	140	--	--	--	--	6	134	--
Ash	7	--	--	--	--	7	--	--
Aspen	81	--	--	--	--	18	63	--
Basswood	3	--	--	--	--	3	--	--
Beech	5	--	--	--	--	5	--	--
Paper birch	100	--	--	--	21	76	3	--
Yellow birch	55	--	--	--	13	41	1	--
Elm	2,991	890	--	--	36	280	1,785	--
Hard maple	1,004	68	--	--	396	362	178	--
Soft maple	452	31	--	--	178	163	80	--
Red oak	111	--	--	--	66	37	8	--
White oak	1	--	--	--	1	--	--	--
Other hardwoods	42	--	--	--	--	42	--	--
Total	4,852	989	--	--	711	1,034	2,118	--
All species	4,992	989	--	--	711	1,040	2,252	--
Gogebic County								
Balsam fir	180	--	--	--	178	--	2	--
Hemlock	821	--	--	--	38	49	734	--
Jack pine	41	--	--	--	41	--	--	--
Red pine	29	--	--	--	29	--	--	--
White pine	20	--	--	--	20	--	--	--
Spruce	180	--	--	--	178	--	2	--
Total	1,271	--	--	--	484	49	738	--
Aspen	35	--	--	--	--	--	35	--
Basswood	237	--	--	--	--	49	188	--
Paper birch	1,503	--	--	--	527	620	356	--
Yellow birch	846	--	--	--	298	348	200	--
Elm	13,198	1,431	2,968	1,484	370	2,198	4,747	--
Hard maple	8,643	124	1,024	--	1,676	2,375	3,444	--
Soft maple	3,883	56	460	--	753	1,067	1,547	--
Total	28,345	1,611	4,452	1,484	3,624	6,657	10,517	--
All species	29,616	1,611	4,452	1,484	4,108	6,706	11,255	--

(Table 1 continued on next page)

(Table 1 continued)

WESTERN UPPER PENINSULA

Species group	Source of fuelwood							
					Rural woodlands			
	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Standing live trees	Logging waste	Dead trees	Other sources
Houghton County								
Balsam fir	60	--	--	--	59	--	1	--
Jack pine	14	--	--	--	14	--	--	--
Red pine	10	--	--	--	10	--	--	--
White pine	6	--	--	--	6	--	--	--
Spruce	60	--	--	--	59	--	1	--
Total	150	--	--	--	148	--	2	--
Paper birch	1,257	--	2	--	831	366	58	--
Yellow birch	707	--	1	--	467	206	33	--
Elm	139	--	7	--	132	--	--	--
Hard maple	8,225	--	61	--	4,482	2,413	1,269	--
Soft maple	3,695	--	28	--	2,013	1,084	570	--
Red oak	1,535	--	--	--	1,422	66	47	--
White oak	16	--	--	--	14	1	1	--
Total	15,574	--	99	--	9,361	4,136	1,978	--
All species	15,724	--	99	--	9,509	4,136	1,980	--
Iron County								
Balsam fir	60	--	--	--	59	--	1	--
Jack pine	23	--	--	--	14	9	--	--
Red pine	16	--	--	--	10	6	--	--
White pine	10	--	--	--	6	4	--	--
Spruce	60	--	--	--	59	--	1	--
Total	169	--	--	--	148	19	2	--
Ash	22	--	--	--	--	22	--	--
Aspen	75	--	--	--	--	55	20	--
Basswood	8	--	--	--	--	8	--	--
Beech	15	--	--	--	--	15	--	--
Paper birch	741	--	--	--	238	462	41	--
Yellow birch	413	--	--	--	134	255	24	--
Elm	14,367	53	38	1,127	755	1,121	11,273	--
Hard maple	5,007	117	--	--	1,180	2,352	1,358	--
Soft maple	2,249	53	--	--	530	1,057	609	--
Red oak	579	85	--	59	97	112	226	--
White oak	4	1	--	--	1	--	2	--
Other hardwoods	127	--	--	--	--	127	--	--
Total	23,607	309	38	1,186	2,935	5,586	13,553	--
All species	23,776	309	38	1,186	3,083	5,605	13,555	--
Keweenaw County								
Cedar	237	--	--	--	--	237	--	--
Jack pine	109	--	--	--	--	109	--	--
Red pine	76	--	--	--	--	76	--	--
White pine	52	--	--	--	--	52	--	--
Total	474	--	--	--	--	474	--	--
Paper birch	1,573	98	--	--	--	1,475	--	--
Yellow birch	717	55	--	--	--	662	--	--
Hard maple	3,793	317	--	--	--	3,339	137	--
Soft maple	1,703	143	--	--	--	1,499	61	--
Red oak	266	--	--	--	--	266	--	--
White oak	2	--	--	--	--	2	--	--
Total	8,054	613	--	--	--	7,243	198	--
All species	8,528	613	--	--	--	7,717	198	--

(Table 1 continued on next page)

(Table 1 continued)

WESTERN UPPER PENINSULA

Species group	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
				Source of fuelwood				
				Marquette County				
Jack pine	494	140	--	--	231	89	34	--
Red pine	181	--	--	--	127	30	24	--
White pine	537	--	--	197	195	30	115	--
Total	1,212	140	--	197	553	149	173	--
Ash	6	--	--	--	--	6	--	--
Aspen	2,026	--	--	197	612	679	538	--
Basswood	59	--	--	--	--	41	18	--
Beech	593	--	--	--	--	593	--	--
Paper birch	2,543	158	--	--	990	803	592	--
Yellow birch	1,430	89	--	--	557	451	333	--
Elm	2,459	--	--	--	143	612	1,704	--
Hard maple	7,620	922	--	182	3,278	2,092	1,146	--
Soft maple	3,420	414	--	81	1,474	937	514	--
Red oak	1,996	--	--	--	158	1,058	780	--
White oak	20	--	--	--	2	11	7	--
Other hardwoods	227	198	--	--	22	7	--	--
Total	22,399	1,781	--	460	7,236	7,290	5,632	--
All species	23,611	1,921	--	657	7,789	7,439	5,805	--
				Ontonagon County				
Ash	49	--	--	--	--	49	--	--
Paper birch	1,065	--	--	--	761	190	114	--
Yellow birch	599	--	--	--	427	107	65	--
Elm	308	--	--	--	91	122	95	--
Hard maple	5,724	--	--	--	2,489	859	2,376	--
Soft maple	2,572	--	--	--	1,118	386	1,068	--
All species	10,317	--	--	--	4,886	1,713	3,718	--

(Table 1 continued on next page)

(Table 1 continued)

WESTERN UPPER PENINSULA

Species group	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
	Source of fuelwood							
	All Counties							
Cedar	237	--	--	--	--	237	--	--
Balsam fir	300	--	--	--	296	--	4	--
Hemlock	821	--	--	--	38	49	734	--
Jack pine	684	140	--	--	300	210	34	--
Red pine	314	--	--	--	176	114	24	--
White pine	697	--	--	197	227	87	186	--
Spruce	363	--	--	--	296	--	67	--
Total	3,416	140	--	197	1,333	697	1,049	--
Ash	887	--	401	--	--	84	402	--
Aspen	2,217	--	--	197	612	752	656	--
Basswood	307	--	--	--	--	101	206	--
Beech	613	--	--	--	--	613	--	--
Paper birch	9,090	256	2	--	3,618	4,033	1,181	--
Yellow birch	4,941	144	1	--	2,036	2,094	666	--
Elm	33,620	2,374	3,013	2,611	1,677	4,333	19,612	--
Hard maple	43,488	1,548	1,085	182	15,662	14,920	10,091	--
Soft maple	19,534	697	488	81	7,037	6,701	4,530	--
Red oak	4,487	85	--	59	1,743	1,539	1,061	--
White oak	43	1	--	--	18	14	10	--
Other hardwoods	792	198	198	--	22	176	198	--
Total	120,019	5,303	5,188	3,130	32,425	35,360	38,613	--
All species	123,435	5,443	5,188	3,327	33,758	36,057	39,662	--

(Table 1 continued on next page)

(Table 1 continued)

NORTHERN LOWER PENINSULA

Species group	Source of fuelwood							
					Rural woodlands			
	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Standing live trees	Logging waste	Dead trees	Other sources
Alcona County								
Balsam fir	400	--	--	--	--	--	400	--
Total	400	--	--	--	--	--	400	--
Ash	236	--	--	--	7	5	224	--
Aspen	3,048	--	--	--	--	10	3,038	--
Balsam poplar	1	--	--	--	--	--	1	--
Basswood	8	--	--	--	--	1	7	--
Beech	27	--	--	--	4	4	19	--
Paper birch	33	--	--	--	7	5	21	--
Yellow birch	2	--	--	--	--	--	2	--
Cottonwood	399	--	--	--	--	--	399	--
Elm	442	--	--	--	7	7	428	--
Hard maple	143	--	--	--	17	76	50	--
Soft maple	154	--	--	--	18	82	54	--
Red oak	378	--	--	--	7	246	125	--
White oak	12	--	--	--	--	8	4	--
Other hardwoods	27	--	--	--	4	5	18	--
Noncommercial	4	--	--	--	--	1	3	--
Total	4,914	--	--	--	71	450	4,393	--
All species	5,314	--	--	--	71	450	4,793	--
Alpena County								
Ash	80	--	--	--	--	--	80	--
Aspen	80	--	--	--	--	--	80	--
Beech	1,580	--	--	--	1,580	--	--	--
Paper birch	4,753	--	--	4,456	--	--	297	--
Yellow birch	357	--	--	335	--	--	22	--
Elm	999	--	--	200	--	--	799	--
Hard maple	161	--	--	--	8	--	153	--
Soft maple	174	--	--	--	8	--	166	--
All species	8,184	--	--	4,991	1,596	--	1,597	--
Antrim County								
Beech	247	--	--	--	6	--	241	--
Elm	973	--	--	--	12	1	960	--
Hard maple	583	--	--	--	5	1	577	--
Soft maple	630	--	--	--	5	1	624	--
Other hardwoods	119	--	--	--	89	6	24	--
All species	2,552	--	--	--	117	9	2,426	--
Arenac County								
Ash	1,082	--	--	200	163	--	719	--
Aspen	592	--	--	--	113	--	479	--
Basswood	213	--	--	200	13	--	--	--
Cottonwood	13	--	--	--	13	--	--	--
Elm	13	--	--	--	13	--	--	--
Hard maple	2,092	--	--	--	367	--	1,725	--
Soft maple	2,265	--	--	--	397	--	1,868	--
Red oak	527	--	--	--	527	--	--	--
White oak	16	--	--	--	16	--	--	--
All species	6,813	--	--	400	1,622	--	4,791	--

(Table 1 continued on next page)

(Table 1 continued)

NORTHERN LOWER PENINSULA

Species group	Source of fuelwood: All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
Bay County								
Ash	4,596	--	244	--	3,193	--	1,159	--
Aspen	3,275	--	1,290	--	801	--	1,184	--
Basswood	922	--	--	--	830	--	92	--
Paper birch	445	--	--	--	--	--	445	--
Yellow birch	34	--	--	--	--	--	34	--
Cottonwood	110	--	110	--	--	--	--	--
Elm	146	--	113	--	16	--	17	--
Hard maple	689	--	--	--	407	--	282	--
Soft maple	745	--	--	--	439	--	306	--
Red oak	466	--	--	--	373	--	93	--
White oak	14	--	--	--	11	--	3	--
Other hardwoods	1,487	--	1,487	--	--	--	--	--
Noncommercial	408	--	408	--	--	--	--	--
All species	13,337	--	3,652	--	6,070	--	3,615	--
Benzie County								
Jack pine	8	1	7	--	--	--	--	--
Red pine	11	1	10	--	--	--	--	--
White pine	1	--	1	--	--	--	--	--
Total	20	2	18	--	--	--	--	--
Ash	34	--	--	--	18	16	--	--
Aspen	22	2	18	--	2	--	--	--
Beech	271	--	--	--	241	30	--	--
Paper birch	26	2	17	--	2	5	--	--
Yellow birch	1	--	1	--	--	--	--	--
Cottonwood	20	2	18	--	--	--	--	--
Elm	6	--	--	--	3	--	3	--
Hard maple	1,118	5	43	--	1,018	52	--	--
Soft maple	1,213	5	48	--	1,102	58	--	--
Red oak	26	--	--	--	20	6	--	--
Other hardwoods	33	2	18	--	5	5	3	--
Noncommercial	250	--	--	--	244	6	--	--
Total	3,020	18	163	--	2,655	178	6	--
All species	3,040	20	181	--	2,655	178	6	--
Charlevoix County								
Ash	62	--	--	--	62	--	--	--
Aspen	125	--	--	--	125	--	--	--
Basswood	203	--	--	--	203	--	--	--
Beech	3,251	--	--	--	2,486	499	266	--
Elm	2,561	--	--	--	--	499	2,062	--
Hard maple	2,563	--	--	--	1,925	478	160	--
Soft maple	2,776	--	--	--	2,084	519	173	--
All species	11,541	--	--	--	6,885	1,995	2,661	--

(Table 1 continued on next page)

(Table 1 continued)

NORTHERN LOWER PENINSULA

Species group	Source of fuelwood							
					Rural woodlands			
	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Standing live trees	Logging waste	Dead trees	Other sources
Cheboygan County								
Red pine	7	--	--	7	--	--	--	--
Total	7	--	--	7	--	--	--	--
Ash	383	--	--	383	--	--	--	--
Aspen	1,483	--	200	683	--	--	600	--
Balsam poplar	24	--	--	24	--	--	--	--
Basswood	115	--	--	106	8	--	1	--
Beech	326	--	--	299	23	--	4	--
Paper birch	1,834	--	--	1,455	192	--	187	--
Yellow birch	139	--	--	110	15	--	14	--
Cottonwood	7	--	--	7	--	--	--	--
Elm	498	--	--	465	24	--	9	--
Hard maple	5,640	--	--	3,103	1,378	--	1,159	--
Soft maple	6,110	--	--	3,361	1,493	--	1,256	--
Red oak	2,015	--	--	2,003	8	--	4	--
White oak	62	--	--	62	--	--	--	--
Other hardwoods	267	--	--	267	--	--	--	--
Noncommercial	62	--	--	50	8	--	4	--
Total	18,965	--	200	12,378	3,149	--	3,238	--
All species	18,972	--	200	12,385	3,149	--	3,238	--
Clare County								
Ash	3,594	--	--	--	2,399	--	1,195	--
Aspen	4,494	--	2,396	--	651	--	1,447	--
Basswood	288	--	--	--	288	--	--	--
Beech	180	--	--	--	180	--	--	--
Paper birch	260	--	--	--	--	--	260	--
Yellow birch	20	--	--	--	--	--	20	--
Elm	180	--	--	--	--	--	180	--
Hard maple	661	--	--	--	144	383	134	--
Soft maple	717	--	--	--	156	415	146	--
Red oak	19,384	--	--	--	582	3,095	15,707	--
White oak	600	--	--	--	18	96	486	--
Noncommercial	108	--	--	--	--	--	108	--
All species	30,486	--	2,396	--	4,418	3,989	19,683	--
Crawford County								
Ash	12	--	--	--	12	--	--	--
Aspen	48	--	--	--	48	--	--	--
Balsam poplar	1	--	--	--	1	--	--	--
Basswood	3	--	--	--	3	--	--	--
Beech	13	--	--	--	12	--	1	--
Paper birch	17	--	--	--	17	--	--	--
Yellow birch	1	--	--	--	1	--	--	--
Elm	2,018	--	--	--	20	--	1,998	--
Hard maple	923	--	--	--	636	286	1	--
Soft maple	1,000	--	--	--	690	309	1	--
Red oak	9,728	--	--	--	3,406	1,347	4,975	--
White oak	301	--	--	--	105	42	154	--
Other hardwoods	71	--	--	--	56	3	12	--
Noncommercial	2	--	--	--	2	--	--	--
All species	14,138	--	--	--	5,009	1,987	7,142	--

(Table 1 continued on next page)

(Table 1 continued)

NORTHERN LOWER PENINSULA

Species group	Source of fuelwood: All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
Emmet County								
Ash	608	--	--	--	458	--	150	--
Aspen	2,794	--	398	--	1,917	--	479	--
Basswood	6	--	--	--	5	--	1	--
Beech	2,838	--	--	--	2,031	--	807	--
Paper birch	480	--	--	--	8	92	380	--
Yellow birch	35	--	--	--	--	7	28	--
Elm	3,584	--	--	--	1,561	--	2,023	--
Hard maple	6,854	--	--	--	5,095	32	1,727	--
Soft maple	7,422	--	--	--	5,518	34	1,870	--
Red oak	4,383	--	--	--	2,562	484	1,337	--
White oak	135	--	--	--	79	15	41	--
Noncommercial	421	--	--	--	319	--	102	--
All species	29,560	--	398	--	19,553	664	8,945	--
Gladwin County								
Jack pine	319	--	--	--	159	--	160	--
Total	319	--	--	--	159	--	160	--
Ash	8,788	--	--	--	7,651	164	973	--
Aspen	3,112	--	261	--	998	199	1,654	--
Paper birch	691	--	--	--	409	--	282	--
Yellow birch	51	--	--	--	29	--	22	--
Elm	1,647	256	--	--	--	--	1,391	--
Hickory	3,997	--	--	--	3,597	--	400	--
Hard maple	4,150	--	2,125	--	648	582	795	--
Soft maple	4,495	--	2,302	--	703	629	861	--
Red oak	10,477	--	253	--	5,064	3,578	1,582	--
White oak	326	--	8	--	158	111	49	--
Other hardwoods	318	--	261	--	--	--	57	--
Total	38,052	256	5,210	--	19,257	5,263	8,066	--
All species	38,371	256	5,210	--	19,416	5,263	8,226	--
Grand Traverse County								
Jack pine	66	--	2	--	--	--	64	--
Red pine	87	--	2	--	--	--	85	--
White pine	11	--	--	--	--	--	11	--
Total	164	--	4	--	--	--	160	--
Ash	490	--	--	45	409	--	36	--
Aspen	1,124	--	802	--	2	--	320	--
Basswood	1,198	--	1,198	--	--	--	--	--
Beech	35	--	--	--	22	4	9	--
Paper birch	238	--	4	42	154	--	38	--
Yellow birch	18	--	--	3	12	--	3	--
Cottonwood	4	--	4	--	--	--	--	--
Elm	1,826	--	--	45	146	--	1,635	--
Hard maple	597	1	9	22	257	2	306	--
Soft maple	643	1	9	23	278	2	330	--
Red oak	4,104	--	1,307	--	381	1	2,415	--
White oak	126	--	40	--	11	--	75	--
Other hardwoods	189	--	4	--	5	--	180	--
Total	10,592	2	3,377	180	1,677	9	5,347	--
All species	10,756	2	3,381	180	1,677	9	5,507	--

(Table 1 continued on next page)

(Table 1 continued)

NORTHERN LOWER PENINSULA

Species group	Source of fuelwood							
					Rural woodlands			
	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Standing live trees	Logging waste	Dead trees	Other sources
Iosco County								
Jack pine	427	--	--	--	364	1	62	--
Red pine	10	--	--	--	9	1	--	--
Total	437	--	--	--	373	2	62	--
Ash	2,570	--	--	--	80	--	2,490	--
Aspen	197	--	--	--	67	2	128	--
Basswood	2,545	--	--	--	--	--	2,545	--
Paper birch	643	--	--	--	501	--	142	--
Yellow birch	49	--	--	--	38	--	11	--
Elm	319	--	--	--	--	--	319	--
Hard maple	848	--	--	--	549	40	259	--
Soft maple	918	--	--	--	595	43	280	--
Red oak	7,584	--	--	--	4,083	23	3,478	--
White oak	234	--	--	--	125	1	108	--
Walnut	6	--	--	--	--	6	--	--
Other hardwoods	223	--	--	--	--	223	--	--
Total	16,136	--	--	--	6,038	338	9,760	--
All species	16,573	--	--	--	6,411	340	9,822	--
Isabella County								
Ash	1,159	--	110	--	99	--	950	--
Aspen	4,737	--	--	--	2,116	--	2,621	--
Paper birch	469	--	--	--	--	--	469	--
Yellow birch	35	--	--	--	--	--	35	--
Hard maple	5,358	--	53	--	3,756	--	1,549	--
Soft maple	5,802	--	57	--	4,067	--	1,678	--
Red oak	9,462	--	109	--	6,317	--	3,036	--
White oak	293	--	3	--	195	--	95	--
All species	27,315	--	332	--	16,550	--	10,433	--
Kalkaska County								
Jack pine	5	--	--	--	--	--	5	--
Red pine	7	--	--	--	--	--	7	--
White pine	1	--	--	--	--	--	1	--
Total	13	--	--	--	--	--	13	--
Ash	46	--	--	--	44	--	2	--
Aspen	3,048	--	253	--	--	--	2,795	--
Beech	522	--	71	--	157	71	223	--
Paper birch	340	--	--	--	5	334	1	--
Yellow birch	25	--	--	--	--	25	--	--
Elm	3,743	--	--	--	--	--	3,743	--
Hard maple	2,700	--	162	--	1,030	715	793	--
Soft maple	2,923	--	175	--	1,116	774	858	--
Red oak	8,405	--	553	--	3,825	1,864	2,163	--
White oak	259	--	17	--	118	58	66	--
Other hardwoods	246	--	13	--	232	--	1	--
Noncommercial	13	--	--	--	12	--	1	--
Total	22,270	--	1,244	--	6,539	3,841	10,646	--
All species	22,283	--	1,244	--	6,539	3,841	10,659	--

(Table 1 continued on next page)

(Table 1 continued)

NORTHERN LOWER PENINSULA

Species group	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
			Source of fuelwood					
Lake County								
Ash	1	--	--	--	1	--	--	--
Aspen	75	--	--	--	75	--	--	--
Beech	1	--	--	--	1	--	--	--
Paper birch	4	--	--	--	4	--	--	--
Elm	2	--	--	--	2	--	--	--
Hard maple	963	--	--	--	244	--	719	--
Soft maple	1,042	--	--	--	263	--	779	--
Red oak	7,035	--	--	--	1,993	39	5,003	--
White oak	217	--	--	--	61	1	155	--
Other hardwoods	2	--	--	--	2	--	--	--
All species	9,342	--	--	--	2,646	40	6,656	--
Leelanau County								
Jack pine	3	--	3	--	--	--	--	--
Red pine	4	--	4	--	--	--	--	--
White pine	1	--	1	--	--	--	--	--
Total	8	--	8	--	--	--	--	--
Ash	168	--	7	--	94	67	--	--
Aspen	15	--	8	--	--	7	--	--
Beech	776	--	7	--	172	202	395	--
Paper birch	23	1	6	--	16	--	--	--
Yellow birch	2	--	1	--	1	--	--	--
Cottonwood	8	1	7	--	--	--	--	--
Elm	7,997	--	4	--	7	--	7,986	--
Hard maple	1,126	2	20	--	187	722	195	--
Soft maple	1,221	2	23	--	202	782	212	--
Red oak	57	--	5	--	31	21	--	--
White oak	1	--	--	--	--	1	--	--
Other hardwoods	35	1	10	--	24	--	--	--
Noncommercial	448	--	2	--	30	21	395	--
Total	11,877	7	100	--	764	1,823	9,183	--
All species	11,885	7	108	--	764	1,823	9,183	--
Manistee County								
Jack pine	3	--	3	--	--	--	--	--
Red pine	4	--	4	--	--	--	--	--
White pine	1	--	1	--	--	--	--	--
Total	8	--	8	--	--	--	--	--
Ash	1,316	--	--	--	763	463	90	--
Aspen	1,873	--	8	--	505	441	919	--
Beech	8,071	--	--	--	2,666	4,559	846	--
Paper birch	3,223	1	6	--	162	2,228	826	--
Yellow birch	243	--	1	--	12	168	62	--
Cottonwood	8	1	7	--	--	--	--	--
Elm	14	--	--	--	14	--	--	--
Hard maple	3,350	2	17	--	1,233	1,755	343	--
Soft maple	3,627	2	19	--	1,335	1,899	372	--
Red oak	4,274	--	--	--	1,859	1,631	784	--
White oak	131	--	--	--	56	51	24	--
Other hardwoods	419	1	7	--	8	372	31	--
Noncommercial	2,739	--	--	--	2,659	48	32	--
Total	29,288	7	65	--	11,272	13,615	4,329	--
All species	29,296	7	73	--	11,272	13,615	4,329	--

(Table 1 continued on next page)

(Table 1 continued)

NORTHERN LOWER PENINSULA

Species group	Source of fuelwood: All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
Mason County								
Ash	133	--	--	--	--	--	133	--
Aspen	1,024	--	1,018	--	6	--	--	--
Basswood	133	--	--	--	--	--	--	133
Beech	5	--	--	--	--	4	1	--
Elm	988	--	988	--	--	--	--	--
Hard maple	2,251	--	474	--	478	207	1,028	64
Soft maple	2,437	--	514	--	518	224	1,112	69
Red oak	6,038	--	--	--	334	1,283	2,100	2,321
White oak	187	--	--	--	10	40	65	72
Other hardwoods	1,598	--	--	1,597	1	--	--	--
All species	14,794	--	2,994	1,597	1,347	1,758	4,439	2,659
Mecosta County								
Jack pine	1,795	--	--	--	1,795	--	--	--
Red pine	598	--	--	--	598	--	--	--
Total	2,393	--	--	--	2,393	--	--	--
Ash	213	--	--	--	75	70	68	--
Aspen	1,539	--	57	--	418	32	1,032	--
Paper birch	171	--	--	--	85	--	86	--
Yellow birch	13	--	--	--	6	--	7	--
Elm	639	--	--	639	--	--	--	--
Hard maple	1,685	--	467	--	484	163	571	--
Soft maple	1,824	--	505	--	522	176	621	--
Red oak	2,855	--	56	78	991	766	964	--
White oak	89	--	2	2	30	25	30	--
Other hardwoods	150	--	57	80	--	--	13	--
Total	9,178	--	1,144	799	2,611	1,232	3,392	--
All species	11,571	--	1,144	799	5,004	1,232	3,392	--
Midland County								
Jack pine	176	--	--	--	18	--	158	--
Red pine	233	--	--	--	23	--	210	--
White pine	30	--	--	--	3	--	27	--
Total	439	--	--	--	44	--	395	--
Ash	1,025	148	--	--	--	--	877	--
Aspen	4,718	379	--	--	2,254	--	2,085	--
Paper birch	534	280	--	--	--	7	247	--
Yellow birch	41	21	--	--	--	1	19	--
Hard maple	897	10	--	--	153	11	723	--
Soft maple	969	10	--	--	166	12	781	--
Red oak	4,157	--	--	--	267	8	3,882	--
White oak	128	--	--	--	8	--	120	--
Total	12,469	848	--	--	2,848	39	8,734	--
All species	12,908	848	--	--	2,892	39	9,129	--

(Table 1 continued on next page)

(Table 1 continued)

NORTHERN LOWER PENINSULA

Species group	All sources	Source of fuelwood: Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
Missaukee County								
Ash	49	--	--	--	49	--	--	--
Aspen	650	--	--	--	650	--	--	--
Basswood	2,588	--	--	--	2,588	--	--	--
Beech	1,640	--	--	--	1,640	--	--	--
Paper birch	150	--	--	--	144	--	6	--
Yellow birch	11	--	--	--	11	--	--	--
Elm	36	--	--	--	36	--	--	--
Hard maple	997	--	--	--	989	1	7	--
Soft maple	1,081	--	--	--	1,072	1	8	--
Red oak	427	--	--	--	408	1	18	--
White oak	12	--	--	--	12	--	--	--
Other hardwoods	23	--	--	--	23	--	--	--
All species	7,664	--	--	--	7,622	3	39	--
Montmorency County								
Jack pine	128	--	--	--	128	--	--	--
Red pine	169	--	--	--	169	--	--	--
White pine	22	--	--	--	22	--	--	--
Total	319	--	--	--	319	--	--	--
Ash	5	--	--	--	2	3	--	--
Aspen	1,293	--	--	1	1,290	--	2	--
Beech	5	--	--	--	2	3	--	--
Paper birch	6,998	--	--	1	5,205	10	1,782	--
Yellow birch	526	--	--	--	391	1	134	--
Elm	50	--	--	--	50	--	--	--
Hard maple	2,230	--	--	1	1,326	17	886	--
Soft maple	2,416	--	--	2	1,436	18	960	--
Red oak	5,100	--	--	--	1,572	--	3,528	--
White oak	158	--	--	--	49	--	109	--
Noncommercial	50	--	--	--	50	--	--	--
Total	18,831	--	--	5	11,373	52	7,401	--
All species	19,150	--	--	5	11,692	52	7,401	--
Newaygo County								
Ash	1,211	--	--	6	1,199	--	6	--
Aspen	1,817	--	--	908	--	--	909	--
Balsam poplar	1	--	--	--	--	--	1	--
Basswood	3	--	--	1	--	--	2	--
Beech	9	--	--	4	--	--	5	--
Paper birch	646	--	--	5	635	--	6	--
Yellow birch	49	--	--	--	48	--	1	--
Elm	175	--	--	167	--	--	8	--
Hard maple	1,413	--	--	357	235	40	781	--
Soft maple	1,530	--	--	387	255	43	845	--
Red oak	19,249	--	--	728	6,610	6	11,905	--
White oak	596	--	--	23	205	--	368	--
Walnut	6	--	--	--	--	6	--	--
Other hardwoods	951	--	--	3	719	223	6	--
Noncommercial	2	--	--	1	--	--	1	--
All species	27,658	--	--	2,590	9,906	318	14,844	--

(Table 1 continued on next page)

(Table 1 continued)

NORTHERN LOWER PENINSULA

Species group	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
	Source of fuelwood							
Oceana County								
Ash	1	--	--	--	1	--	--	--
Aspen	38	--	--	--	38	--	--	--
Beech	1,331	--	1,330	--	1	--	--	--
Paper birch	3	--	--	--	3	--	--	--
Elm	1	--	--	--	1	--	--	--
Hard maple	2	--	--	--	2	--	--	--
Soft maple	2	--	--	--	2	--	--	--
Red oak	6,019	--	--	--	2,093	49	3,877	--
White oak	186	--	--	--	64	2	120	--
Other hardwoods	598	--	--	--	598	--	--	--
All species	8,181	--	1,330	--	2,803	51	3,997	--
Ogemaw County								
Red pine	4	--	--	--	3	--	1	--
Total	4	--	--	--	3	--	1	--
Ash	1,239	--	--	--	532	20	687	--
Aspen	4,127	--	--	--	937	--	3,190	--
Balsam poplar	14	--	--	--	9	--	5	--
Basswood	64	--	--	--	42	--	22	--
Beech	179	--	--	--	118	--	61	--
Paper birch	608	--	--	--	363	--	245	--
Yellow birch	44	--	--	--	27	--	17	--
Cottonwood	4	--	--	--	3	--	1	--
Elm	279	--	--	--	184	--	95	--
Hickory	92	--	--	--	--	--	92	--
Hard maple	1,073	--	--	--	536	68	469	--
Soft maple	1,162	--	--	--	580	72	510	--
Red oak	5,095	--	--	--	1,839	626	2,630	--
White oak	157	--	--	--	56	19	82	--
Other hardwoods	413	--	--	--	153	--	260	--
Noncommercial	30	--	--	--	20	--	10	--
Total	14,580	--	--	--	5,399	805	8,376	--
All species	14,584	--	--	--	5,402	805	8,377	--
Osceola County								
Ash	6	--	--	--	6	--	--	--
Aspen	3,315	1,797	--	--	1	--	1,517	--
Balsam poplar	1,797	1,797	--	--	--	--	--	--
Basswood	1	--	--	--	1	--	--	--
Beech	1	--	--	--	1	--	--	--
Hard maple	868	863	--	--	3	1	1	--
Soft maple	939	934	--	--	3	1	1	--
Red oak	91	--	--	--	11	1	79	--
White oak	2	--	--	--	--	--	2	--
Other hardwoods	1,798	1,797	--	--	1	--	--	--
All species	8,818	7,188	--	--	27	3	1,600	--

(Table 1 continued on next page)

(Table 1 continued)

NORTHERN LOWER PENINSULA

Species group	All sources	Source of fuelwood: Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
Oscoda County								
Jack pine	30	--	--	--	--	--	30	--
Red pine	40	--	--	--	--	--	40	--
White pine	5	--	--	--	--	--	5	--
Total	75	--	--	--	--	--	75	--
Aspen	114	--	--	--	--	10	104	--
Beech	13	--	--	--	--	1	12	--
Paper birch	286	--	--	--	283	--	3	--
Yellow birch	22	--	--	--	22	--	--	--
Hard maple	521	--	--	--	435	79	7	--
Soft maple	565	--	--	--	471	86	8	--
Red oak	2,437	--	--	--	1,371	406	660	--
White oak	76	--	--	--	43	13	20	--
Total	4,034	--	--	--	2,625	595	814	--
All species	4,109	--	--	--	2,625	595	889	--
Otsego County								
Elm	7,213	--	--	--	--	--	7,213	--
Hard maple	384	--	--	--	--	--	384	--
Soft maple	415	--	--	--	--	--	415	--
All species	8,012	--	--	--	--	--	8,012	--
Presque Isle County								
Aspen	2,931	--	--	--	--	--	2,931	--
Beech	1,994	--	--	--	1,994	--	--	--
Paper birch	3,166	--	--	--	1,854	--	1,312	--
Yellow birch	239	--	--	--	140	--	99	--
Hard maple	7,658	--	--	--	7,658	--	--	--
Soft maple	8,297	--	--	--	8,297	--	--	--
Red oak	128	--	--	--	--	--	128	--
White oak	4	--	--	--	--	--	4	--
All species	24,417	--	--	--	19,943	--	4,474	--
Roscommon County								
Jack pine	266	--	--	--	--	--	266	--
Total	266	--	--	--	--	--	266	--
Ash	829	--	15	--	5	--	809	--
Aspen	1,666	--	--	--	1,301	215	150	--
Basswood	1	--	--	--	1	--	--	--
Beech	4	--	--	--	4	--	--	--
Paper birch	628	--	--	--	324	292	12	--
Yellow birch	46	--	--	--	23	22	1	--
Elm	7	--	--	--	7	--	--	--
Hard maple	1,632	--	--	--	926	430	276	--
Soft maple	1,766	--	--	--	1,004	464	298	--
Red oak	12,570	15	15	--	4,872	1,570	6,098	--
White oak	388	--	--	--	152	48	188	--
Other hardwoods	5	--	--	--	5	--	--	--
Noncommercial	1	--	--	--	1	--	--	--
Total	19,543	15	30	--	8,625	3,041	7,832	--
All species	19,809	15	30	--	8,625	3,041	8,098	--

(Table 1 continued on next page)

(Table 1 continued)

NORTHERN LOWER PENINSULA

Species group	Source of fuelwood							
					Rural woodlands			
	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Standing live trees	Logging waste	Dead trees	Other sources
	Wexford County							
Ash	27	--	--	--	26	--	1	--
Beech	12	--	--	--	12	--	--	--
Paper birch	13	--	--	--	13	--	--	--
Yellow birch	1	--	--	--	1	--	--	--
Elm	14	--	--	--	14	--	--	--
Hard maple	608	--	--	--	105	--	503	--
Soft maple	657	--	--	--	113	--	544	--
Red oak	4,122	--	--	--	86	--	4,036	--
White oak	127	--	--	--	2	--	125	--
Other hardwoods	15	--	--	--	15	--	--	--
All species	5,596	--	--	--	387	--	5,209	--

(Table 1 continued on next page)

(Table 1 continued)

NORTHERN LOWER PENINSULA

Species group	Source of fuelwood							
					Rural woodlands			
	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Standing live trees	Logging waste	Dead trees	Other sources
	All Counties							
Balsam fir	400	--	--	--	--	--	400	--
Jack pine	3,226	1	15	--	2,464	1	745	--
Red pine	1,174	1	20	7	802	1	343	--
White pine	72	--	3	--	25	--	44	--
Total	4,872	2	38	7	3,291	2	1,532	--
Ash	29,963	148	376	634	17,348	808	10,649	--
Aspen	53,374	2,178	6,709	1,592	14,315	916	27,664	--
Balsam poplar	1,838	1,797	--	24	10	--	7	--
Basswood	8,291	--	1,198	307	3,982	1	2,670	133
Beech	23,331	--	1,408	303	13,353	5,377	2,890	--
Paper birch	26,682	284	33	5,959	10,386	2,973	7,047	--
Yellow birch	2,004	21	3	448	777	224	531	--
Cottonwood	573	4	146	7	16	--	400	--
Elm	36,370	256	1,105	1,516	2,117	507	30,869	--
Hickory	4,089	--	--	--	3,597	--	492	--
Hard maple	62,738	883	3,370	3,483	32,234	6,141	16,563	64
Soft maple	67,937	954	3,652	3,773	34,908	6,644	17,937	69
Red oak	156,593	15	2,298	2,809	51,492	17,051	80,607	2,321
White oak	4,837	--	70	87	1,584	531	2,493	72
Walnut	12	--	--	--	--	12	--	--
Other hardwoods	8,987	1,801	1,857	1,947	1,940	837	605	--
Noncommercial	4,538	--	410	51	3,345	76	656	--
Total	492,157	8,341	22,635	22,940	191,404	42,098	202,080	2,659
All species	497,029	8,343	22,673	22,947	194,695	42,100	203,612	2,659

(Table 1 continued on next page)

(Table 1 continued)

SOUTHERN LOWER PENINSULA

Species group	Source of fuelwood							
					Rural woodlands			
	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Standing live trees	Logging waste	Dead trees	Other sources
Allegan County								
Ash	619	60	--	--	276	10	273	--
Aspen	3,400	334	529	--	1,405	40	1,044	48
Beech	883	--	145	--	231	145	362	--
Paper birch	101	21	40	--	--	--	--	40
Yellow birch	19	3	8	--	--	--	--	8
Elm	120	24	48	--	--	--	--	48
Hickory	3,213	--	--	--	7	3,202	4	--
Hard maple	3,034	96	561	--	1,109	738	498	32
Soft maple	10,752	346	1,987	--	3,925	2,615	1,767	112
Red oak	6,018	189	1,239	--	1,873	796	1,836	85
White oak	4,184	133	861	--	1,302	554	1,275	59
Walnut	80	80	--	--	--	--	--	--
Other hardwoods	3,838	276	2,129	--	551	47	787	48
All species	36,261	1,562	7,547	--	10,679	8,147	7,846	480
Barry County								
Red pine	96	--	--	--	--	48	48	--
Total	96	--	--	--	--	48	48	--
Ash	467	--	--	--	328	89	50	--
Aspen	2,279	--	--	--	--	--	1,999	280
Beech	291	--	--	--	--	147	144	--
Elm	2,471	--	--	--	--	96	2,095	280
Hickory	624	--	--	--	28	34	2	560
Hard maple	1,134	--	--	--	133	37	472	492
Soft maple	4,024	--	--	--	472	134	1,672	1,746
Red oak	7,970	--	1,887	86	3,107	374	1,196	1,320
White oak	5,538	--	1,311	60	2,158	259	832	918
Walnut	919	--	799	120	--	--	--	--
Other hardwoods	428	--	--	--	354	71	3	--
Total	26,145	--	3,997	266	6,580	1,241	8,465	5,596
All species	26,241	--	3,997	266	6,580	1,289	8,513	5,596
Berrien County								
Ash	2,086	--	--	--	1,488	292	306	--
Aspen	675	8	--	--	194	201	272	--
Beech	22	1	--	--	--	3	18	--
Paper birch	10	--	--	--	--	2	8	--
Yellow birch	2	--	--	--	--	--	2	--
Cottonwood	4	--	--	--	--	1	3	--
Elm	4,029	--	--	--	3,998	5	26	--
Hickory	19	--	--	--	5	14	--	--
Hard maple	911	440	106	--	352	2	11	--
Soft maple	3,228	1,559	374	--	1,249	7	39	--
Red oak	3,387	--	1,226	--	1,222	190	749	--
White oak	2,355	--	853	--	849	133	520	--
Walnut	1	--	--	--	--	--	1	--
Other hardwoods	3,623	--	640	--	1,546	226	1,211	--
Noncommercial	2,243	--	--	--	--	--	--	2,243
All species	22,595	2,008	3,199	--	10,903	1,076	3,166	2,243

(Table 1 continued on next page)

(Table 1 continued)

SOUTHERN LOWER PENINSULA

Species group	Source of fuelwood: All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
Branch County								
Aspen	185	--	--	--	--	--	185	--
Basswood	331	--	--	--	265	--	66	--
Beech	331	--	--	--	265	--	66	--
Paper birch	155	--	--	--	--	--	155	--
Yellow birch	30	--	--	--	--	--	30	--
Elm	185	--	--	--	--	--	185	--
Hard maple	908	198	273	--	120	--	317	--
Soft maple	3,215	701	967	--	424	--	1,123	--
Red oak	207	--	--	--	78	--	129	--
White oak	144	--	--	--	54	--	90	--
Other hardwoods	806	--	526	--	--	--	280	--
Noncommercial	331	--	--	--	265	--	66	--
All species	6,828	899	1,766	--	1,471	--	2,692	--
Calhoun County								
Jack pine	13	6	--	--	3	--	4	--
Red pine	46	23	--	--	11	--	12	--
White pine	21	10	--	--	5	--	6	--
Total	80	39	--	--	19	--	22	--
Ash	712	--	1	--	327	61	323	--
Aspen	3	--	--	--	--	3	--	--
Beech	4	--	--	--	--	4	--	--
Paper birch	206	101	--	--	50	4	51	--
Yellow birch	39	19	--	--	9	1	10	--
Cottonwood	1	--	--	--	--	1	--	--
Elm	45	--	10	--	1	18	16	--
Hickory	135	--	4	--	121	5	5	--
Hard maple	777	140	2	--	557	5	73	--
Soft maple	2,758	499	5	--	1,979	17	258	--
Red oak	6,707	--	4	--	5,612	327	764	--
White oak	4,660	--	3	--	3,901	225	531	--
Walnut	12	--	3	--	--	4	5	--
Other hardwoods	1,395	--	2	--	1,180	210	3	--
Total	17,454	759	34	--	13,737	885	2,039	--
All species	17,534	798	34	--	13,756	885	2,061	--
Cass County								
Ash	4,602	--	2,798	1,199	1	604	--	--
Aspen	1,123	--	--	--	370	3	750	--
Beech	2,245	--	--	--	741	5	1,499	--
Paper birch	6	--	--	--	1	5	--	--
Yellow birch	1	--	--	--	--	1	--	--
Cottonwood	1,121	--	--	--	369	2	750	--
Elm	2,690	--	1,369	502	567	14	238	--
Hickory	57	--	--	--	15	42	--	--
Hard maple	298	--	29	5	83	5	176	--
Soft maple	1,057	--	104	17	294	18	624	--
Red oak	3,983	--	1,433	507	1,418	53	572	--
White oak	2,767	--	995	352	985	38	397	--
Walnut	601	--	--	--	--	601	--	--
Other hardwoods	3,228	--	--	33	1,828	1,292	75	--
Noncommercial	154	--	--	--	77	--	77	--
All species	23,933	--	6,728	2,615	6,749	2,683	5,158	--

(Table 1 continued on next page)

(Table 1 continued)

SOUTHERN LOWER PENINSULA

Species group	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
			Source of fuelwood					
Clinton County								
Ash	20	--	--	--	18	1	1	--
Aspen	2	--	--	--	2	--	--	--
Basswood	4	--	--	--	4	--	--	--
Beech	1	--	--	--	1	--	--	--
Paper birch	1	--	--	--	1	--	--	--
Cottonwood	1,349	--	1,349	--	--	--	--	--
Elm	8,094	--	8,094	--	--	--	--	--
Hickory	1	--	--	--	1	--	--	--
Hard maple	718	29	682	--	7	--	--	--
Soft maple	2,543	104	2,416	--	19	2	2	--
Red oak	1,616	--	1,592	--	22	1	1	--
White oak	1,122	--	1,106	--	14	1	1	--
Other hardwoods	2,649	--	2,648	--	1	--	--	--
All species	18,120	133	17,887	--	90	5	5	--
Eaton County								
Ash	1,266	--	735	--	314	--	217	--
Beech	3,597	--	--	--	1,798	--	1,799	--
Cottonwood	600	--	600	--	--	--	--	--
Elm	3,964	--	3,433	--	314	--	217	--
Hard maple	220	--	88	--	77	--	55	--
Soft maple	780	--	314	--	271	--	195	--
Red oak	1,189	--	992	--	98	--	99	--
White oak	826	--	689	--	68	--	69	--
Other hardwoods	3,215	--	2,486	--	462	--	267	--
All species	15,657	--	9,337	--	3,402	--	2,918	--
Genesee County								
Aspen	400	400	--	--	--	--	--	--
Elm	460	160	300	--	--	--	--	--
Hard maple	55	--	55	--	--	--	--	--
Soft maple	197	--	197	--	--	--	--	--
Red oak	53	--	53	--	--	--	--	--
White oak	37	--	37	--	--	--	--	--
Other hardwoods	1,025	--	1,025	--	--	--	--	--
Noncommercial	132	--	132	--	--	--	--	--
All species	2,359	560	1,799	--	--	--	--	--
Gratiot County								
Jack pine	3	--	--	--	--	--	3	--
Red pine	12	--	--	--	--	--	12	--
White pine	5	--	--	--	--	--	5	--
Total	20	--	--	--	--	--	20	--
Ash	560	--	--	--	280	--	280	--
Aspen	524	--	--	--	472	--	52	--
Beech	560	--	--	--	280	--	280	--
Paper birch	6	--	--	--	--	6	--	--
Yellow birch	1	--	--	--	--	1	--	--
Elm	20	--	--	--	--	--	20	--
Hickory	10	--	--	--	--	--	10	--
Hard maple	932	--	--	--	707	5	220	--
Soft maple	3,304	--	--	--	2,507	17	780	--
Red oak	284	--	--	--	174	4	106	--
White oak	198	--	--	--	122	3	73	--
Other hardwoods	10	--	--	--	--	--	10	--
Total	6,409	--	--	--	4,542	36	1,831	--
All species	6,429	--	--	--	4,542	36	1,851	--

(Table 1 continued on next page)

(Table 1 continued)

SOUTHERN LOWER PENINSULA

Species group	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
				Source of fuelwood				
				Hillsdale County				
Ash	34	--	--	7	3	24	--	--
Aspen	1	--	--	--	--	1	--	--
Beech	2	--	--	--	--	2	--	--
Paper birch	104	--	51	--	3	1	49	--
Yellow birch	20	--	10	--	--	--	10	--
Cottonwood	1	--	--	--	--	1	--	--
Elm	1,743	--	769	1	38	3	932	--
Hickory	1,416	--	708	--	35	--	673	--
Hard maple	487	--	228	9	12	32	206	--
Soft maple	1,722	--	807	32	42	115	726	--
Red oak	2,398	--	1,018	615	41	173	551	--
White oak	1,666	--	708	427	29	120	382	--
Walnut	320	--	160	160	--	--	--	--
Other hardwoods	5,662	--	4,975	481	--	6	200	--
All species	15,576	--	9,434	1,732	203	478	3,729	--
				Huron County				
Paper birch	1,679	1,511	168	--	--	--	--	--
Yellow birch	320	288	32	--	--	--	--	--
Elm	1,199	1,079	120	--	--	--	--	--
Hard maple	176	158	18	--	--	--	--	--
Soft maple	623	561	62	--	--	--	--	--
All species	3,997	3,597	400	--	--	--	--	--
				Ingham County				
Balsam fir	1,199	--	1,199	--	--	--	--	--
Jack pine	64	--	64	--	--	--	--	--
Red pine	232	--	232	--	--	--	--	--
White pine	104	--	104	--	--	--	--	--
Total	1,599	--	1,599	--	--	--	--	--
Ash	1,059	--	--	--	45	12	1,002	--
Aspen	1,420	1,415	--	--	5	--	--	--
Basswood	10	--	--	--	8	1	1	--
Beech	17,232	--	--	800	6,398	1	10,033	--
Paper birch	668	664	--	--	3	1	--	--
Yellow birch	127	127	--	--	--	--	--	--
Elm	890	888	--	--	--	2	--	--
Hickory	3	--	--	--	3	--	--	--
Hard maple	896	174	254	169	15	2	282	--
Soft maple	3,174	617	897	599	55	5	1,001	--
Red oak	4,854	--	2,554	325	999	29	947	--
White oak	3,376	--	1,775	227	695	21	658	--
Walnut	248	--	192	56	--	--	--	--
Other hardwoods	8,292	3,110	3,573	304	4	22	1,279	--
Total	42,249	6,995	9,245	2,480	8,230	96	15,203	--
All species	43,848	6,995	10,844	2,480	8,230	96	15,203	--

(Table 1 continued on next page)

(Table 1 continued)

SOUTHERN LOWER PENINSULA

Species group	Source of fuelwood: All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Logging waste	Dead trees	Other sources
Ionia County								
Jack pine	96	--	--	--	77	--	19	--
Red pine	348	--	--	--	278	--	70	--
White pine	156	--	--	--	125	--	31	--
Total	600	--	--	--	480	--	120	--
Ash	3	--	--	--	1	2	--	--
Aspen	260	--	--	--	195	--	65	--
Paper birch	24,174	--	--	--	16,196	7,978	--	--
Yellow birch	4,604	--	--	--	3,085	1,519	--	--
Elm	30,037	--	250	--	19,476	9,871	440	--
Hard maple	7,080	--	55	--	4,664	2,172	189	--
Soft maple	25,098	--	195	--	16,536	7,701	666	--
Red oak	2,410	--	147	--	1,299	598	366	--
White oak	1,677	--	103	--	904	415	255	--
Other hardwoods	9,136	--	--	--	6,297	2,534	305	--
Noncommercial	1,898	--	250	--	719	374	555	--
Total	106,377	--	1,000	--	69,372	33,164	2,841	--
All species	106,977	--	1,000	--	69,852	33,164	2,961	--
Jackson County								
Red pine	1	--	1	--	--	--	--	--
Total	1	--	1	--	--	--	--	--
Ash	95	3	13	7	44	26	2	--
Aspen	20	3	12	--	4	1	--	--
Basswood	9	--	--	--	9	--	--	--
Beech	27	5	18	--	2	2	--	--
Paper birch	360	340	17	--	2	1	--	--
Yellow birch	68	65	3	--	--	--	--	--
Cottonwood	9	2	6	--	--	1	--	--
Elm	1,267	1,212	51	1	--	3	--	--
Hickory	668	--	--	266	402	--	--	--
Hard maple	214	6	60	9	105	33	1	--
Soft maple	761	24	212	32	374	117	2	--
Red oak	3,968	18	637	615	2,048	176	474	--
White oak	2,759	13	443	427	1,424	122	330	--
Walnut	323	1	162	160	--	--	--	--
Other hardwoods	6,116	207	4,355	747	801	6	--	--
Noncommercial	107	--	--	--	107	--	--	--
Total	16,771	1,899	5,989	2,264	5,322	488	809	--
All species	16,772	1,899	5,990	2,264	5,322	488	809	--
Kalamazoo County								
Red pine	1	1	--	--	--	--	--	--
Total	1	1	--	--	--	--	--	--
Ash	912	13	159	--	54	145	541	--
Aspen	22	11	1	--	2	--	8	--
Beech	1,249	16	532	--	20	4	677	--
Paper birch	15	15	--	--	--	--	--	--
Yellow birch	3	3	--	--	--	--	--	--
Cottonwood	6	6	--	--	--	--	--	--
Elm	7,331	979	1,542	--	216	778	3,816	--
Hickory	3,491	3	2,080	--	27	288	1,093	--
Hard maple	1,833	72	901	3	439	119	299	--
Soft maple	6,502	258	3,193	11	1,558	422	1,060	--
Red oak	6,138	560	3,595	5	345	482	1,151	--
White oak	4,264	388	2,499	4	239	335	799	--
Walnut	1,693	2	437	9	481	252	512	--
Other hardwoods	27,119	1,244	20,390	256	443	444	4,342	--
Noncommercial	680	50	470	--	16	--	144	--
Total	61,258	3,620	35,799	288	3,840	3,269	14,442	--
All species	61,259	3,621	35,799	288	3,840	3,269	14,442	--

(Table 1 continued on next page)

(Table 1 continued)

SOUTHERN LOWER PENINSULA

Species group	Source of fuelwood: All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
Kent County								
Red pine	4,381	--	959	--	--	112	1,391	1,919
Total	4,381	--	959	--	--	112	1,391	1,919
Ash	232	4	--	--	--	112	116	--
Aspen	5,109	644	--	--	4,408	--	57	--
Beech	7,039	246	1,708	750	2,158	336	342	1,499
Paper birch	106	6	94	--	--	--	6	--
Yellow birch	20	1	18	--	--	--	1	--
Cottonwood	4	2	--	--	--	--	2	--
Elm	5,600	17	1,708	750	--	224	1,402	1,499
Hard maple	2,944	17	485	48	1,084	220	883	207
Soft maple	10,432	58	1,721	172	3,845	780	3,127	729
Red oak	16,293	3,627	1,245	--	7,036	30	4,355	--
White oak	11,324	2,521	865	--	4,887	21	3,030	--
Walnut	181	1	128	--	--	51	1	--
Other hardwoods	10,140	2,022	3,741	--	1,051	2,189	1,137	--
Noncommercial	18,611	--	2,635	5,986	--	--	2,396	7,594
Total	88,035	9,166	14,348	7,706	24,469	3,963	16,855	11,528
All species	92,416	9,166	15,307	7,706	24,469	4,075	18,246	13,447
Lapeer County								
Ash	2,998	--	--	--	--	--	2,998	--
Elm	120	--	120	--	--	--	--	--
Hard maple	176	--	--	--	--	--	176	--
Soft maple	623	--	--	--	--	--	623	--
Red oak	78	--	--	78	--	--	--	--
White oak	55	--	--	55	--	--	--	--
Noncommercial	200	--	--	--	--	--	200	--
All species	4,250	--	120	133	--	--	3,997	--
Lenawee County								
Ash	2,615	663	1,655	7	14	25	101	150
Aspen	777	249	415	--	11	1	101	--
Beech	2	--	--	--	--	2	--	--
Paper birch	102	--	--	101	--	1	--	--
Yellow birch	19	--	--	19	--	--	--	--
Cottonwood	1	--	--	--	--	1	--	--
Elm	4	--	--	1	--	3	--	--
Hickory	1,807	112	--	--	802	--	893	--
Hard maple	241	176	--	27	4	34	--	--
Soft maple	849	623	--	95	12	119	--	--
Red oak	3,882	985	1,055	49	554	177	1,062	--
White oak	2,697	685	733	35	383	123	738	--
Other hardwoods	2,478	282	414	1	829	6	946	--
All species	15,474	3,775	4,272	335	2,609	492	3,841	150

(Table 1 continued on next page)

(Table 1 continued)

SOUTHERN LOWER PENINSULA

Species group	All sources	Source of fuelwood: Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
Livingston County								
Cottonwood	1,599	1,599	--	--	--	--	--	--
Elm	831	831	--	--	--	--	--	--
Red oak	5,187	1,887	--	--	--	--	3,300	--
White oak	3,605	1,311	--	--	--	--	2,294	--
Other hardwoods	767	767	--	--	--	--	--	--
All species	11,989	6,395	--	--	--	--	5,594	--
Macomb County								
Red pine	3	3	--	--	--	--	--	--
Total	3	3	--	--	--	--	--	--
Ash	54	54	--	--	--	--	--	--
Aspen	48	48	--	--	--	--	--	--
Beech	73	73	--	--	--	--	--	--
Paper birch	67	67	--	--	--	--	--	--
Yellow birch	13	13	--	--	--	--	--	--
Cottonwood	25	25	--	--	--	--	--	--
Elm	206	206	--	--	--	--	--	--
Hard maple	314	94	220	--	--	--	--	--
Soft maple	1,112	333	779	--	--	--	--	--
Red oak	347	347	--	--	--	--	--	--
White oak	241	241	--	--	--	--	--	--
Walnut	10	10	--	--	--	--	--	--
Other hardwoods	285	285	--	--	--	--	--	--
Total	2,795	1,796	999	--	--	--	--	--
All species	2,798	1,799	999	--	--	--	--	--
Monroe County								
Red pine	1	--	--	--	1	--	--	--
Total	1	--	--	--	1	--	--	--
Ash	27	--	--	--	27	--	--	--
Aspen	24	--	--	--	24	--	--	--
Beech	36	--	--	--	36	--	--	--
Paper birch	33	--	--	--	33	--	--	--
Yellow birch	6	--	--	--	6	--	--	--
Cottonwood	12	--	--	--	12	--	--	--
Elm	103	--	--	--	103	--	--	--
Hard maple	36	--	--	--	36	--	--	--
Soft maple	127	--	--	--	127	--	--	--
Red oak	144	--	--	--	144	--	--	--
White oak	100	--	--	--	100	--	--	--
Walnut	5	--	--	--	5	--	--	--
Other hardwoods	145	--	--	--	145	--	--	--
Total	798	--	--	--	798	--	--	--
All species	799	--	--	--	799	--	--	--

(Table 1 continued on next page)

(Table 1 continued)

SOUTHERN LOWER PENINSULA

Species group	All sources	Source of fuelwood: Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
Montcalm County								
Paper birch	2	--	--	--	2	--	--	--
Hard maple	35	--	--	--	--	35	--	--
Soft maple	125	--	--	--	--	125	--	--
Red oak	1,144	--	628	--	139	377	--	--
White oak	796	--	437	--	97	262	--	--
Other hardwoods	266	--	266	--	--	--	--	--
All species	2,368	--	1,331	--	238	799	--	--
Muskegon County								
Red pine	9	--	--	--	--	9	--	--
Total	9	--	--	--	--	9	--	--
Ash	214	--	--	--	27	170	17	--
Aspen	1,030	--	--	--	835	143	52	--
Beech	230	--	--	--	--	218	12	--
Paper birch	211	--	--	--	--	200	11	--
Yellow birch	40	--	--	--	--	38	2	--
Cottonwood	78	--	--	--	--	74	4	--
Elm	651	--	--	--	--	617	34	--
Hard maple	961	--	--	--	698	224	39	--
Soft maple	3,407	--	--	--	2,472	794	141	--
Red oak	25,334	--	3,681	1,238	13,186	917	6,312	--
White oak	17,607	--	2,558	861	9,164	637	4,387	--
Walnut	31	--	--	--	--	29	2	--
Other hardwoods	913	--	--	--	--	864	49	--
Total	50,707	--	6,239	2,099	26,382	4,925	11,062	--
All species	50,716	--	6,239	2,099	26,382	4,934	11,062	--
Oakland County								
Red pine	2	2	--	--	--	--	--	--
Total	2	2	--	--	--	--	--	--
Ash	49	45	--	--	--	--	4	--
Aspen	44	40	--	--	--	--	4	--
Beech	67	61	--	--	--	--	6	--
Paper birch	61	55	--	--	--	--	6	--
Yellow birch	12	11	--	--	--	--	1	--
Cottonwood	23	21	--	--	--	--	2	--
Elm	4,418	4,356	--	--	--	--	62	--
Hard maple	560	484	--	70	--	--	6	--
Soft maple	1,989	1,718	--	250	--	--	21	--
Red oak	4,716	3,127	--	755	294	--	540	--
White oak	3,277	2,174	--	524	204	--	375	--
Walnut	9	8	--	--	--	--	1	--
Other hardwoods	5,648	4,094	532	--	499	--	523	--
Noncommercial	1,560	1,533	--	--	--	--	27	--
Total	22,433	17,727	532	1,599	997	--	1,578	--
All species	22,435	17,729	532	1,599	997	--	1,578	--

(Table 1 continued on next page)

(Table 1 continued)

SOUTHERN LOWER PENINSULA

Species group	Source of fuelwood							
					Rural woodlands			
	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Standing live trees	Logging waste	Dead trees	Other sources
Ottawa County								
White pine	80	--	80	--	--	--	--	--
Total	80	--	80	--	--	--	--	--
Ash	600	--	--	--	--	--	--	600
Aspen	300	--	--	--	--	--	--	300
Hard maple	165	--	--	--	--	--	--	165
Soft maple	585	--	--	--	--	--	--	585
Red oak	2,870	--	896	--	825	707	--	442
White oak	1,997	--	623	--	574	492	--	308
Other hardwoods	1,132	532	--	--	--	--	--	600
Total	7,649	532	1,519	--	1,399	1,199	--	3,000
All species	7,729	532	1,599	--	1,399	1,199	--	3,000
Saginaw County								
Balsam fir	400	--	400	--	--	--	--	--
Jack pine	102	--	83	--	9	--	10	--
Red pine	371	--	301	--	35	--	35	--
White pine	167	--	135	--	16	--	16	--
Total	1,040	--	919	--	60	--	61	--
Ash	240	--	120	--	60	--	60	--
Aspen	573	83	370	--	59	--	61	--
Paper birch	1,215	--	101	--	50	509	555	--
Yellow birch	231	--	19	--	9	97	106	--
Cottonwood	333	83	250	--	--	--	--	--
Elm	7,812	--	612	--	1,499	200	5,501	--
Hard maple	2,188	18	81	--	988	5	1,096	--
Soft maple	7,754	65	288	--	3,500	17	3,884	--
Red oak	6,538	49	218	--	2,987	4	3,280	--
White oak	4,543	34	152	--	2,075	3	2,279	--
Other hardwoods	4,991	1,248	3,743	--	--	--	--	--
Noncommercial	333	83	250	--	--	--	--	--
Total	36,751	1,663	6,204	--	11,227	835	16,822	--
All species	37,791	1,663	7,123	--	11,287	835	16,883	--
St Clair County								
Jack pine	96	--	--	--	--	--	96	--
Red pine	348	--	--	--	--	--	348	--
White pine	156	--	--	--	--	--	156	--
Total	600	--	--	--	--	--	600	--
Aspen	3,298	--	735	--	2,050	--	513	--
Paper birch	1,511	--	--	--	--	--	1,511	--
Yellow birch	288	--	--	--	--	--	288	--
Hard maple	1,957	--	265	--	1,354	--	338	--
Soft maple	6,936	--	939	--	4,797	--	1,200	--
Red oak	471	--	471	--	--	--	--	--
White oak	328	--	328	--	--	--	--	--
Total	14,789	--	2,738	--	8,201	--	3,850	--
All species	15,389	--	2,738	--	8,201	--	4,450	--

(Table 1 continued on next page)

(Table 1 continued)

SOUTHERN LOWER PENINSULA

Species group	All sources	Source of fuelwood: Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Rural woodlands: Standing live trees	Rural woodlands: Logging waste	Rural woodlands: Dead trees	Other sources
St Joseph County								
Red pine	3	--	--	--	3	--	--	--
Total	3	--	--	--	3	--	--	--
Ash	116	--	20	--	96	--	--	--
Aspen	50	--	--	--	50	--	--	--
Beech	76	--	--	--	76	--	--	--
Paper birch	70	--	--	--	70	--	--	--
Yellow birch	13	--	--	--	13	--	--	--
Cottonwood	26	--	--	--	26	--	--	--
Elm	1,335	--	559	--	636	--	140	--
Hickory	60	--	20	--	40	--	--	--
Hard maple	792	--	4	--	260	--	176	352
Soft maple	2,808	--	16	--	921	--	624	1,247
Red oak	4,866	--	1,332	--	1,787	--	803	944
White oak	3,383	--	926	--	1,243	--	558	656
Walnut	10	--	--	--	10	--	--	--
Other hardwoods	365	--	20	--	345	--	--	--
Total	13,970	--	2,897	--	5,573	--	2,301	3,199
All species	13,973	--	2,897	--	5,576	--	2,301	3,199
Tuscola County								
Ash	3,993	--	--	--	2,995	--	998	--
Aspen	532	--	--	--	399	--	133	--
Basswood	375	--	375	--	--	--	--	--
Cottonwood	6,235	--	3,117	3,118	--	--	--	--
Elm	1,923	--	1,124	--	599	--	200	--
Hard maple	457	--	228	229	--	--	--	--
Soft maple	1,621	--	810	811	--	--	--	--
Red oak	1,226	--	612	614	--	--	--	--
White oak	852	--	426	426	--	--	--	--
All species	17,214	--	6,692	5,198	3,993	--	1,331	--
Van Buren County								
Red pine	9	--	--	--	9	--	--	--
Total	9	--	--	--	9	--	--	--
Ash	196	--	--	--	178	18	--	--
Aspen	143	--	--	--	143	--	--	--
Beech	236	--	--	--	227	9	--	--
Paper birch	200	--	--	--	200	--	--	--
Yellow birch	38	--	--	--	38	--	--	--
Cottonwood	74	--	--	--	74	--	--	--
Elm	785	--	--	50	617	--	118	--
Hickory	18	--	--	--	9	9	--	--
Hard maple	386	96	11	12	230	9	28	--
Soft maple	1,370	342	39	42	816	30	101	--
Red oak	1,932	--	17	194	1,232	33	456	--
White oak	1,343	--	12	135	857	23	316	--
Walnut	72	--	30	2	31	2	7	--
Other hardwoods	3,574	1,074	895	139	980	116	370	--
Total	10,367	1,512	1,004	574	5,632	249	1,396	--
All species	10,376	1,512	1,004	574	5,641	249	1,396	--

(Table 1 continued on next page)

(Table 1 continued)

SOUTHERN LOWER PENINSULA

Species group	Source of fuelwood							
					Rural woodlands			
	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Standing live trees	Logging waste	Dead trees	Other sources
				Washtenaw County				
Ash	820	--	80	--	1	19	720	--
Aspen	94	77	--	--	--	3	14	--
Beech	3	--	--	--	--	1	2	--
Paper birch	190	189	--	--	--	1	--	--
Yellow birch	36	36	--	--	--	--	--	--
Cottonwood	100	100	--	--	--	--	--	--
Elm	841	100	--	--	--	4	737	--
Hard maple	2,046	22	1,469	--	317	1	237	--
Soft maple	7,255	78	5,206	--	1,122	4	845	--
Red oak	5,557	--	40	--	4,247	57	1,213	--
White oak	3,861	--	27	--	2,951	41	842	--
Other hardwoods	6,149	3,298	1,599	--	961	51	240	--
Noncommercial	45	--	--	--	--	--	45	--
All species	26,997	3,900	8,421	--	9,599	182	4,895	--
				Wayne County				
Red pine	1,201	1,201	--	--	--	--	--	--
Total	1,201	1,201	--	--	--	--	--	--
Ash	631	31	600	--	--	--	--	--
Aspen	27	27	--	--	--	--	--	--
Beech	42	42	--	--	--	--	--	--
Paper birch	38	38	--	--	--	--	--	--
Yellow birch	7	7	--	--	--	--	--	--
Cottonwood	14	14	--	--	--	--	--	--
Elm	7,887	7,631	--	--	--	--	256	--
Hard maple	841	709	132	--	--	--	--	--
Soft maple	2,984	2,516	468	--	--	--	--	--
Red oak	3,654	3,654	--	--	--	--	--	--
White oak	2,541	2,541	--	--	--	--	--	--
Walnut	6	6	--	--	--	--	--	--
Other hardwoods	1,800	1,800	--	--	--	--	--	--
Noncommercial	1,542	1,542	--	--	--	--	--	--
Total	22,014	20,558	1,200	--	--	--	256	--
All species	23,215	21,759	1,200	--	--	--	256	--

(Table 1 continued on next page)

(Table 1 continued)

SOUTHERN LOWER PENINSULA

Species group	Source of fuelwood							
					Rural woodlands			
	All sources	Cities and villages	Windbreaks fencerows and rural yards	Pasture and cropland	Standing live trees	Logging waste	Dead trees	Other sources
	All Counties							
Balsam fir	1,599	--	1,599	--	--	--	--	--
Jack pine	374	6	147	--	89	--	132	--
Red pine	7,064	1,230	1,493	--	337	169	1,916	1,919
White pine	689	10	319	--	146	--	214	--
Total	9,726	1,246	3,558	--	572	169	2,262	1,919
Ash	25,220	873	6,181	1,220	6,577	1,610	8,009	750
Aspen	22,363	3,339	2,062	--	10,628	396	5,310	628
Basswood	729	--	375	--	286	1	67	--
Beech	34,248	444	2,403	1,550	12,233	879	15,240	1,499
Paper birch	31,291	3,007	471	101	16,611	8,709	2,352	40
Yellow birch	5,957	573	90	19	3,160	1,657	450	8
Cottonwood	11,615	1,852	5,322	3,118	481	81	761	--
Elm	97,061	17,483	20,109	1,305	28,064	11,838	16,435	1,827
Hickory	11,522	115	2,812	266	1,495	3,594	2,680	560
Hard maple	33,772	2,929	6,207	581	13,351	3,678	5,778	1,248
Soft maple	119,715	10,402	21,996	2,061	47,317	13,039	20,481	4,419
Red oak	135,421	14,443	26,572	5,081	50,767	5,505	30,262	2,791
White oak	94,123	10,041	18,470	3,533	35,279	3,828	21,031	1,941
Walnut	4,521	108	1,911	507	527	939	529	--
Other hardwoods	115,195	20,239	53,959	1,961	18,277	8,084	12,027	648
Noncommercial	27,836	3,208	3,737	5,986	1,184	374	3,510	9,837
Total	770,589	89,056	172,677	27,289	246,237	64,212	144,922	26,196
All species	780,315	90,302	176,235	27,289	246,809	64,381	147,184	28,115

Table 2.--Fuelwood production from roundwood by Forest Survey Unit, county, species group, and owner class, Michigan, 1986

(In standard cords)

ALL UNITS

Species group 1/	All ownerships	Federal		Indian	State	County and municipal	Forest industry	Other private
		National forest	Other					
				All Counties				
Cedar	641	--	--	--	--	--	237	404
Balsam fir	2,349	240	--	--	--	--	60	2,049
Hemlock	821	--	--	--	--	--	99	722
Jack pine	4,878	90	--	--	364	--	216	4,208
Red pine	8,552	84	--	--	10	--	116	8,342
White pine	1,755	31	--	--	4	--	88	1,632
Spruce	2,005	240	--	--	--	--	60	1,705
Total	21,001	685	--	--	378	--	876	19,062
Ash	69,016	462	--	--	2,175	1,401	59	64,919
Aspen	80,373	583	--	--	4,866	3,163	383	71,378
Balsam poplar	1,838	--	--	--	1	--	--	1,837
Basswood	9,327	--	--	--	233	--	99	8,995
Beech	68,524	2,959	445	--	4,721	6	330	60,063
Paper birch	76,165	1,888	338	--	5,602	769	1,512	66,056
Yellow birch	14,637	714	107	--	1,026	332	683	11,775
Cottonwood	12,188	--	--	--	13	1,601	--	10,574
Elm	175,364	741	--	--	6,443	4,866	13,978	149,336
Hickory	15,611	--	--	--	31	567	--	15,013
Hard maple	165,777	12,015	353	--	13,002	3,935	8,801	127,671
Soft maple	230,043	8,091	241	--	12,021	5,568	8,443	195,679
Red oak	296,521	8,369	--	--	47,176	11,170	4,153	225,653
White oak	99,004	731	--	--	4,648	4,139	2,530	86,956
Walnut	4,533	--	--	--	--	1	--	4,532
Other hardwoods	125,930	720	--	--	1,249	1,514	59	122,388
Noncommercial	32,562	18	--	--	169	10	--	32,365
Total	1,477,413	37,291	1,484	--	103,376	39,042	41,030	1,255,190
All species	1,498,414	37,976	1,484	--	103,754	39,042	41,906	1,274,252

(Table 2 continued on next page)

(Table 2 continued)

EASTERN UPPER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Alger County								
Ash	216	216	--	--	--	--	--	--
Aspen	40	40	--	--	--	--	--	--
Beech	3,536	2,646	267	--	--	--	--	623
Paper birch	1,409	593	224	--	--	--	--	592
Yellow birch	268	113	43	--	--	--	--	112
Elm	1,505	139	--	--	149	--	--	1,217
Hard maple	5,711	2,828	189	--	235	--	--	2,459
Soft maple	5,060	2,506	167	--	206	--	--	2,181
Other hardwoods	766	680	--	--	--	--	--	86
Noncommercial	27	3	--	--	6	--	--	18
All species	18,538	9,764	890	--	596	--	--	7,288
Chippewa County								
White pine	297	--	--	--	--	--	--	297
Spruce	1,484	--	--	--	--	--	--	1,484
Total	1,781	--	--	--	--	--	--	1,781
Ash	11,871	--	--	--	--	--	--	11,871
Aspen	1,077	--	--	--	--	--	--	1,077
Beech	223	148	--	--	38	--	--	37
Paper birch	3,533	124	--	--	32	--	--	3,377
Yellow birch	673	24	--	--	6	--	--	643
Hard maple	9,598	1,416	--	--	40	--	--	8,142
Soft maple	8,511	1,255	--	--	35	--	--	7,221
Red oak	19	--	--	--	--	--	--	19
Total	35,505	2,967	--	--	151	--	--	32,387
All species	37,286	2,967	--	--	151	--	--	34,168
Delta County								
Jack pine	594	--	--	--	--	--	--	594
Total	594	--	--	--	--	--	--	594
Ash	234	61	--	--	108	--	--	65
Aspen	934	189	--	--	318	--	--	427
Beech	301	141	--	--	101	--	--	59
Paper birch	1,795	162	--	--	146	--	--	1,487
Yellow birch	344	32	--	--	29	--	--	283
Elm	2,629	185	--	--	308	--	--	2,136
Hard maple	1,977	801	--	--	554	--	--	622
Soft maple	1,752	709	--	--	490	--	--	553
Other hardwoods	96	26	--	--	43	--	--	27
Noncommercial	33	15	--	--	15	--	--	3
Total	10,095	2,321	--	--	2,112	--	--	5,662
All species	10,689	2,321	--	--	2,112	--	--	6,256

(Table 2 continued on next page)

(Table 2 continued)

EASTERN UPPER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Luce County								
Beech	3,177	--	--	--	2,847	--	330	--
Hard maple	866	--	--	--	691	--	175	--
Soft maple	768	--	--	--	613	--	155	--
All species	4,811	--	--	--	4,151	--	660	--
Mackinac County								
Cedar	196	--	--	--	--	--	--	196
Total	196	--	--	--	--	--	--	196
Aspen	2	--	--	--	--	--	--	2
Beech	1,484	--	--	--	13	--	--	1,471
Paper birch	1,339	--	--	--	1,016	--	--	323
Yellow birch	255	--	--	--	194	--	--	61
Elm	950	--	--	--	--	--	--	950
Hard maple	3,802	--	--	--	648	--	--	3,154
Soft maple	3,371	--	--	--	575	--	--	2,796
Total	11,203	--	--	--	2,446	--	--	8,757
All species	11,399	--	--	--	2,446	--	--	8,953
Menominee County								
Cedar	208	--	--	--	--	--	--	208
Balsam fir	50	--	--	--	--	--	--	50
Spruce	158	--	--	--	--	--	--	158
Total	416	--	--	--	--	--	--	416
Ash	625	--	--	--	59	--	53	513
Aspen	364	--	--	--	70	--	--	294
Beech	524	--	--	--	47	--	--	477
Paper birch	860	--	--	--	91	--	--	769
Yellow birch	163	--	--	--	17	--	--	146
Elm	3,229	--	--	--	276	--	--	2,953
Hard maple	2,497	--	--	--	244	--	509	1,744
Soft maple	2,217	--	--	--	216	--	452	1,549
Other hardwoods	94	--	--	--	25	--	53	16
Noncommercial	128	--	--	--	1	--	--	127
Total	10,701	--	--	--	1,046	--	1,067	8,588
All species	11,117	--	--	--	1,046	--	1,067	9,004
Schoolcraft County								
Beech	1,087	--	--	--	--	--	--	1,087
Paper birch	166	--	--	--	--	--	--	166
Yellow birch	32	--	--	--	--	--	--	32
Hard maple	1,328	--	--	--	--	--	--	1,328
Soft maple	1,178	--	--	--	--	--	--	1,178
All species	3,791	--	--	--	--	--	--	3,791

(Table 2 continued on next page)

(Table 2 continued)

EASTERN UPPER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
				All Counties				
Cedar	404	--	--	--	--	--	--	404
Balsam fir	50	--	--	--	--	--	--	50
Jack pine	594	--	--	--	--	--	--	594
White pine	297	--	--	--	--	--	--	297
Spruce	1,642	--	--	--	--	--	--	1,642
Total	2,987	--	--	--	--	--	--	2,987
Ash	12,946	277	--	--	167	--	53	12,449
Aspen	2,417	229	--	--	388	--	--	1,800
Beech	10,332	2,935	267	--	3,046	--	330	3,754
Paper birch	9,102	879	224	--	1,285	--	--	6,714
Yellow birch	1,735	169	43	--	246	--	--	1,277
Elm	8,313	324	--	--	733	--	--	7,256
Hard maple	25,779	5,045	189	--	2,412	--	684	17,449
Soft maple	22,857	4,470	167	--	2,135	--	607	15,478
Red oak	19	--	--	--	--	--	--	19
Other hardwoods	956	706	--	--	68	--	53	129
Noncommercial	188	18	--	--	22	--	--	148
Total	94,644	15,052	890	--	10,502	--	1,727	66,473
All species	97,631	15,052	890	--	10,502	--	1,727	69,460

(Table 2 continued on next page)

(Table 2 continued)

WESTERN UPPER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Baraga County								
Ash	803	--	--	--	--	--	--	803
Paper birch	308	--	--	--	--	--	38	270
Yellow birch	174	--	--	--	--	--	21	153
Elm	158	--	--	--	--	--	--	158
Hard maple	3,472	--	--	--	--	--	778	2,694
Soft maple	1,560	--	--	--	--	--	350	1,210
Other hardwoods	396	--	--	--	--	--	--	396
All species	6,871	--	--	--	--	--	1,187	5,684
Dickinson County								
Jack pine	3	--	--	--	2	--	--	1
Red pine	2	--	--	--	1	--	--	1
White pine	72	--	--	--	1	--	--	71
Spruce	63	--	--	--	--	--	--	63
Total	140	--	--	--	4	--	--	136
Ash	7	--	--	--	5	--	--	2
Aspen	81	--	--	--	13	--	--	68
Basswood	3	--	--	--	2	--	--	1
Beech	5	--	--	--	4	--	--	1
Paper birch	100	--	--	--	71	--	--	29
Yellow birch	55	--	--	--	40	--	--	15
Elm	2,991	--	--	--	326	--	--	2,665
Hard maple	1,004	--	--	--	587	--	--	417
Soft maple	452	--	--	--	265	--	--	187
Red oak	111	--	--	--	81	--	--	30
White oak	1	--	--	--	1	--	--	--
Other hardwoods	42	--	--	--	29	--	--	13
Total	4,852	--	--	--	1,424	--	--	3,428
All species	4,992	--	--	--	1,428	--	--	3,564
Gogebic County								
Balsam fir	180	144	--	--	--	--	36	--
Hemlock	821	--	--	--	--	--	99	722
Jack pine	41	33	--	--	--	--	8	--
Red pine	29	23	--	--	--	--	6	--
White pine	20	16	--	--	--	--	4	--
Spruce	180	144	--	--	--	--	36	--
Total	1,271	360	--	--	--	--	189	722
Aspen	35	--	--	--	--	--	--	35
Basswood	237	--	--	--	--	--	99	138
Paper birch	1,503	264	--	--	--	557	185	497
Yellow birch	846	150	--	--	--	313	103	280
Elm	13,198	44	--	--	--	2,295	6,233	4,626
Hard maple	8,643	649	--	--	--	727	2,240	5,027
Soft maple	3,883	292	--	--	--	327	1,007	2,257
Total	28,345	1,399	--	--	--	4,219	9,867	12,860
All species	29,616	1,759	--	--	--	4,219	10,056	13,582

(Table 2 continued on next page)

(Table 2 continued)

WESTERN UPPER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Houghton County								
Balsam fir	60	48	--	--	--	--	12	--
Jack pine	14	11	--	--	--	--	3	--
Red pine	10	8	--	--	--	--	2	--
White pine	6	5	--	--	--	--	1	--
Spruce	60	48	--	--	--	--	12	--
Total	150	120	--	--	--	--	30	--
Paper birch	1,257	77	--	--	--	--	313	867
Yellow birch	707	43	--	--	--	--	177	487
Elm	139	--	--	--	--	--	--	139
Hard maple	8,225	166	--	--	--	--	884	7,175
Soft maple	3,695	74	--	--	--	--	398	3,223
Red oak	1,535	--	--	--	--	--	--	1,535
White oak	16	--	--	--	--	--	--	16
Total	15,574	360	--	--	--	--	1,772	13,442
All species	15,724	480	--	--	--	--	1,802	13,442
Iron County								
Balsam fir	60	48	--	--	--	--	12	--
Jack pine	23	11	--	--	6	--	3	3
Red pine	16	8	--	--	4	--	2	2
White pine	10	5	--	--	3	--	1	1
Spruce	60	48	--	--	--	--	12	--
Total	169	120	--	--	13	--	30	6
Ash	22	--	--	--	15	--	--	7
Aspen	75	--	--	--	39	--	--	36
Basswood	8	--	--	--	6	--	--	2
Beech	15	--	--	--	11	--	--	4
Paper birch	741	220	--	--	186	--	254	81
Yellow birch	413	124	--	--	102	--	143	44
Elm	14,367	--	--	--	618	19	245	13,485
Hard maple	5,007	784	--	--	904	--	1,308	2,011
Soft maple	2,249	352	--	--	406	--	588	903
Red oak	579	--	--	--	78	--	--	501
White oak	4	--	--	--	--	--	--	4
Other hardwoods	127	--	--	--	89	--	--	38
Total	23,607	1,480	--	--	2,454	19	2,538	17,116
All species	23,776	1,600	--	--	2,467	19	2,568	17,122
Keweenaw County								
Cedar	237	--	--	--	--	--	237	--
Jack pine	109	--	--	--	--	--	109	--
Red pine	76	--	--	--	--	--	76	--
White pine	52	--	--	--	--	--	52	--
Total	474	--	--	--	--	--	474	--
Paper birch	1,573	--	--	--	--	--	525	1,048
Yellow birch	717	--	--	--	--	--	128	589
Hard maple	3,793	--	--	--	--	--	267	3,526
Soft maple	1,703	--	--	--	--	--	119	1,584
Red oak	266	--	--	--	--	--	266	--
White oak	2	--	--	--	--	--	2	--
Total	8,054	--	--	--	--	--	1,307	6,747
All species	8,528	--	--	--	--	--	1,781	6,747

(Table 2 continued on next page)

(Table 2 continued)

WESTERN UPPER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Marquette County								
Jack pine	494	--	--	--	--	--	89	405
Red pine	181	--	--	--	--	--	30	151
White pine	537	--	--	--	--	--	30	507
Total	1,212	--	--	--	--	--	149	1,063
Ash	6	--	--	--	--	--	6	--
Aspen	2,026	178	--	--	299	--	383	1,166
Basswood	59	--	--	--	--	--	--	59
Beech	593	--	178	--	--	--	--	415
Paper birch	2,543	65	114	--	445	--	197	1,722
Yellow birch	1,430	36	64	--	250	--	111	969
Elm	2,459	142	--	--	600	--	1,092	625
Hard maple	7,620	217	164	--	1,306	--	834	5,099
Soft maple	3,420	98	74	--	587	--	373	2,288
Red oak	1,996	94	--	--	887	--	75	940
White oak	20	1	--	--	9	--	1	9
Other hardwoods	227	--	--	--	16	--	6	205
Total	22,399	831	594	--	4,399	--	3,078	13,497
All species	23,611	831	594	--	4,399	--	3,227	14,560
Ontonagon County								
Ash	49	25	--	--	--	--	--	24
Paper birch	1,065	337	--	--	--	--	--	728
Yellow birch	599	190	--	--	--	--	--	409
Elm	308	212	--	--	--	--	73	23
Hard maple	5,724	4,388	--	--	--	--	450	886
Soft maple	2,572	1,971	--	--	--	--	202	399
All species	10,317	7,123	--	--	--	--	725	2,469

(Table 2 continued on next page)

(Table 2 continued)

WESTERN UPPER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
				All Counties				
Cedar	237	--	--	--	--	--	237	--
Balsam fir	300	240	--	--	--	--	60	--
Hemlock	821	--	--	--	--	--	99	722
Jack pine	684	55	--	--	8	--	212	409
Red pine	314	39	--	--	5	--	116	154
White pine	697	26	--	--	4	--	88	579
Spruce	363	240	--	--	--	--	60	63
Total	3,416	600	--	--	17	--	872	1,927
Ash	887	25	--	--	20	--	6	836
Aspen	2,217	178	--	--	351	--	383	1,305
Basswood	307	--	--	--	8	--	99	200
Beech	613	--	178	--	15	--	--	420
Paper birch	9,090	963	114	--	702	557	1,512	5,242
Yellow birch	4,941	543	64	--	392	313	683	2,946
Elm	33,620	398	--	--	1,544	2,314	7,643	21,721
Hard maple	43,488	6,204	164	--	2,797	727	6,761	26,835
Soft maple	19,534	2,787	74	--	1,258	327	3,037	12,051
Red oak	4,487	94	--	--	1,046	--	341	3,006
White oak	43	1	--	--	10	--	3	29
Other hardwoods	792	--	--	--	134	--	6	652
Total	120,019	11,193	594	--	8,277	4,238	20,474	75,243
All species	123,435	11,793	594	--	8,294	4,238	21,346	77,170

(Table 2 continued on next page)

(Table 2 continued)

NORTHERN LOWER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Alcona County								
Balsam fir	400	--	--	--	--	--	--	400
Total	400	--	--	--	--	--	--	400
Ash	236	4	--	--	1	--	--	231
Aspen	3,048	3	--	--	3	--	--	3,042
Balsam poplar	1	--	--	--	--	--	--	1
Basswood	8	--	--	--	--	--	--	8
Beech	27	3	--	--	1	--	--	23
Paper birch	33	4	--	--	1	--	--	28
Yellow birch	2	--	--	--	--	--	--	2
Cottonwood	399	--	--	--	--	--	--	399
Elm	442	5	--	--	2	--	--	435
Hard maple	143	26	--	--	19	--	--	98
Soft maple	154	28	--	--	21	--	--	105
Red oak	378	65	--	--	62	--	--	251
White oak	12	2	--	--	2	--	--	8
Other hardwoods	27	4	--	--	2	--	--	21
Noncommercial	4	--	--	--	--	--	--	4
Total	4,914	144	--	--	114	--	--	4,656
All species	5,314	144	--	--	114	--	--	5,056
Alpena County								
Ash	80	--	--	--	--	--	--	80
Aspen	80	--	--	--	--	--	--	80
Beech	1,580	--	--	--	--	--	--	1,580
Paper birch	4,753	--	--	--	--	--	--	4,753
Yellow birch	357	--	--	--	--	--	--	357
Elm	999	--	--	--	--	--	--	999
Hard maple	161	--	--	--	--	--	--	161
Soft maple	174	--	--	--	--	--	--	174
All species	8,184	--	--	--	--	--	--	8,184
Antrim County								
Beech	247	--	--	--	--	--	--	247
Elm	973	--	--	--	--	--	--	973
Hard maple	583	--	--	--	--	--	--	583
Soft maple	630	--	--	--	--	--	--	630
Other hardwoods	119	--	--	--	--	--	--	119
All species	2,552	--	--	--	--	--	--	2,552
Arenac County								
Ash	1,082	--	--	--	13	--	--	1,069
Aspen	592	--	--	--	13	--	--	579
Basswood	213	--	--	--	13	--	--	200
Cottonwood	13	--	--	--	13	--	--	--
Elm	13	--	--	--	13	--	--	--
Hard maple	2,092	--	--	--	7	--	--	2,085
Soft maple	2,265	--	--	--	7	--	--	2,258
Red oak	527	--	--	--	270	--	--	257
White oak	16	--	--	--	8	--	--	8
All species	6,813	--	--	--	357	--	--	6,456

(Table 2 continued on next page)

(Table 2 continued)

NORTHERN LOWER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Bay County								
Ash	4,596	--	--	--	--	--	--	4,596
Aspen	3,275	--	--	--	--	--	--	3,275
Basswood	922	--	--	--	--	--	--	922
Paper birch	445	--	--	--	--	--	--	445
Yellow birch	34	--	--	--	--	--	--	34
Cottonwood	110	--	--	--	--	--	--	110
Elm	146	--	--	--	--	--	--	146
Hard maple	689	--	--	--	--	--	--	689
Soft maple	745	--	--	--	--	--	--	745
Red oak	466	--	--	--	--	--	--	466
White oak	14	--	--	--	--	--	--	14
Other hardwoods	1,487	--	--	--	--	--	--	1,487
Noncommercial	408	--	--	--	--	--	--	408
All species	13,337	--	--	--	--	--	--	13,337
Benzie County								
Jack pine	8	--	--	--	--	--	--	8
Red pine	11	--	--	--	--	--	--	11
White pine	1	--	--	--	--	--	--	1
Total	20	--	--	--	--	--	--	20
Ash	34	--	--	--	1	--	--	33
Aspen	22	--	--	--	1	--	--	21
Beech	271	--	--	--	1	--	--	270
Paper birch	26	--	--	--	1	--	--	25
Yellow birch	1	--	--	--	--	--	--	1
Cottonwood	20	--	--	--	--	--	--	20
Elm	6	--	--	--	3	--	--	3
Hard maple	1,118	--	--	--	37	--	--	1,081
Soft maple	1,213	--	--	--	39	--	--	1,174
Red oak	26	--	--	--	9	--	--	17
Other hardwoods	33	--	--	--	4	--	--	29
Noncommercial	250	--	--	--	--	--	--	250
Total	3,020	--	--	--	96	--	--	2,924
All species	3,040	--	--	--	96	--	--	2,944
Charlevoix County								
Ash	62	--	--	--	62	--	--	--
Aspen	125	--	--	--	125	--	--	--
Basswood	203	--	--	--	203	--	--	--
Beech	3,251	--	--	--	1,155	--	--	2,096
Elm	2,561	--	--	--	--	--	--	2,561
Hard maple	2,563	--	--	--	967	--	--	1,596
Soft maple	2,776	--	--	--	1,046	--	--	1,730
All species	11,541	--	--	--	3,558	--	--	7,983
Cheboygan County								
Red pine	7	--	--	--	--	--	--	7
Total	7	--	--	--	--	--	--	7
Ash	383	--	--	--	--	--	--	383
Aspen	1,483	--	--	--	--	--	--	1,483
Balsam poplar	24	--	--	--	--	--	--	24
Basswood	115	--	--	--	4	--	--	111
Beech	326	--	--	--	11	--	--	315
Paper birch	1,834	--	--	--	4	--	--	1,830
Yellow birch	139	--	--	--	--	--	--	139
Cottonwood	7	--	--	--	--	--	--	7
Elm	498	--	--	--	11	--	--	487
Hard maple	5,640	--	--	--	975	--	--	4,665
Soft maple	6,110	--	--	--	1,057	--	--	5,053
Red oak	2,015	--	--	--	4	--	--	2,011
White oak	62	--	--	--	--	--	--	62
Other hardwoods	267	--	--	--	--	--	--	267
Noncommercial	62	--	--	--	4	--	--	58
Total	18,965	--	--	--	2,070	--	--	16,895
All species	18,972	--	--	--	2,070	--	--	16,902

(Table 2 continued on next page)

(Table 2 continued)

NORTHERN LOWER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Clare County								
Ash	3,594	--	--	--	12	--	--	3,582
Aspen	4,494	--	--	--	209	--	--	4,285
Basswood	288	--	--	--	--	--	--	288
Beech	180	--	--	--	--	--	--	180
Paper birch	260	--	--	--	--	--	--	260
Yellow birch	20	--	--	--	--	--	--	20
Elm	180	--	--	--	108	--	--	72
Hard maple	661	--	--	--	9	--	--	652
Soft maple	717	--	--	--	9	--	--	708
Red oak	19,384	--	--	--	426	--	--	18,958
White oak	600	--	--	--	14	--	--	586
Noncommercial	108	--	--	--	65	--	--	43
All species	30,486	--	--	--	852	--	--	29,634
Crawford County								
Ash	12	--	--	--	6	--	--	6
Aspen	48	--	--	--	30	--	--	18
Balsam poplar	1	--	--	--	1	--	--	--
Basswood	3	--	--	--	2	--	--	1
Beech	13	--	--	--	5	--	--	8
Paper birch	17	--	--	--	6	--	--	11
Yellow birch	1	--	--	--	1	--	--	--
Elm	2,018	--	--	--	2,003	--	--	15
Hard maple	923	553	--	--	302	--	--	68
Soft maple	1,000	600	--	--	329	--	--	71
Red oak	9,728	2,612	--	--	1,812	--	--	5,304
White oak	301	81	--	--	56	--	--	164
Other hardwoods	71	--	--	--	6	--	--	65
Noncommercial	2	--	--	--	1	--	--	1
All species	14,138	3,846	--	--	4,560	--	--	5,732
Emmet County								
Ash	608	--	--	--	--	--	--	608
Aspen	2,794	--	--	--	--	--	--	2,794
Basswood	6	--	--	--	2	--	--	4
Beech	2,838	--	--	--	7	--	--	2,831
Paper birch	480	--	--	--	2	--	--	478
Yellow birch	35	--	--	--	--	--	--	35
Elm	3,584	--	--	--	7	--	--	3,577
Hard maple	6,854	--	--	--	12	--	--	6,842
Soft maple	7,422	--	--	--	12	--	--	7,410
Red oak	4,383	--	--	--	2	--	--	4,381
White oak	135	--	--	--	--	--	--	135
Noncommercial	421	--	--	--	2	--	--	419
All species	29,560	--	--	--	46	--	--	29,514
Gladwin County								
Jack pine	319	--	--	--	--	--	--	319
Total	319	--	--	--	--	--	--	319
Ash	8,788	--	--	--	352	--	--	8,436
Aspen	3,112	--	--	--	1,336	--	--	1,776
Paper birch	691	--	--	--	133	--	--	558
Yellow birch	51	--	--	--	9	--	--	42
Elm	1,647	--	--	--	368	--	--	1,279
Hickory	3,997	--	--	--	--	--	--	3,997
Hard maple	4,150	--	--	--	1,320	--	--	2,830
Soft maple	4,495	--	--	--	1,430	--	--	3,065
Red oak	10,477	--	--	--	5,356	--	--	5,121
White oak	326	--	--	--	167	--	--	159
Other hardwoods	318	--	--	--	--	--	--	318
Total	38,052	--	--	--	10,471	--	--	27,581
All species	38,371	--	--	--	10,471	--	--	27,900

(Table 2 continued on next page)

(Table 2 continued)

NORTHERN LOWER PENINSULA

Species group	All ownerships	Federal		Indian	State	County and municipal	Forest industry	Other private
		National forest	Other					
Grand Traverse County								
Jack pine	66	--	--	--	--	--	--	66
Red pine	87	--	--	--	--	--	--	87
White pine	11	--	--	--	--	--	--	11
Total	164	--	--	--	--	--	--	164
Ash	490	--	--	--	263	--	--	227
Aspen	1,124	--	--	--	1	--	--	1,123
Basswood	1,198	--	--	--	--	--	--	1,198
Beech	35	--	--	--	25	--	--	10
Paper birch	238	--	--	--	23	--	--	215
Yellow birch	18	--	--	--	2	--	--	16
Cottonwood	4	--	--	--	--	--	--	4
Elm	1,826	--	--	--	1,124	--	--	702
Hard maple	597	--	--	--	168	--	--	429
Soft maple	643	--	--	--	181	--	--	462
Red oak	4,104	--	--	--	2,587	--	--	1,517
White oak	126	--	--	--	80	--	--	46
Other hardwoods	189	--	--	--	2	--	--	187
Total	10,592	--	--	--	4,456	--	--	6,136
All species	10,756	--	--	--	4,456	--	--	6,300
Iosco County								
Jack pine	427	5	--	--	356	--	4	62
Red pine	10	5	--	--	5	--	--	--
Total	437	10	--	--	361	--	4	62
Ash	2,570	--	--	--	--	--	--	2,570
Aspen	199	6	--	--	126	--	--	67
Basswood	2,545	--	--	--	--	--	--	2,545
Paper birch	643	--	--	--	112	--	--	531
Yellow birch	49	--	--	--	8	--	--	41
Elm	319	--	--	--	--	--	--	319
Hard maple	848	--	--	--	--	--	3	845
Soft maple	918	--	--	--	--	--	3	915
Red oak	7,585	83	--	--	4,106	--	184	3,212
White oak	235	3	--	--	128	--	6	98
Walnut	6	--	--	--	--	--	--	6
Other hardwoods	223	--	--	--	--	--	--	223
Total	16,140	92	--	--	4,480	--	196	11,372
All species	16,577	102	--	--	4,841	--	200	11,434
Isabella County								
Ash	1,159	--	--	--	--	--	--	1,159
Aspen	4,737	--	--	--	--	2,555	--	2,182
Paper birch	469	--	--	--	--	--	--	469
Yellow birch	35	--	--	--	--	--	--	35
Hard maple	5,358	--	--	--	--	2,396	--	2,962
Soft maple	5,802	--	--	--	--	2,595	--	3,207
Red oak	9,462	--	--	--	--	5,461	--	4,001
White oak	293	--	--	--	--	169	--	124
All species	27,315	--	--	--	--	13,176	--	14,139

(Table 2 continued on next page)

(Table 2 continued)

NORTHERN LOWER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Kalkaska County								
Jack pine	5	--	--	--	--	--	--	5
Red pine	7	--	--	--	--	--	--	7
White pine	1	--	--	--	--	--	--	1
Total	13	--	--	--	--	--	--	13
Ash	46	--	--	--	46	--	--	--
Aspen	3,048	--	--	--	--	--	--	3,048
Beech	522	--	--	--	97	--	--	425
Paper birch	340	--	--	--	6	--	--	334
Yellow birch	25	--	--	--	--	--	--	25
Elm	3,743	--	--	--	--	--	--	3,743
Hard maple	2,700	--	--	--	1,143	--	--	1,557
Soft maple	2,923	--	--	--	1,237	--	--	1,686
Red oak	8,405	--	--	--	4,309	--	--	4,096
White oak	259	--	--	--	133	--	--	126
Other hardwoods	246	--	--	--	193	--	--	53
Noncommercial	13	--	--	--	--	--	--	13
Total	22,270	--	--	--	7,164	--	--	15,106
All species	22,283	--	--	--	7,164	--	--	15,119
Lake County								
Ash	1	1	--	--	--	--	--	--
Aspen	75	39	--	--	--	--	--	36
Beech	1	1	--	--	--	--	--	--
Paper birch	4	3	--	--	--	--	--	1
Elm	2	1	--	--	--	--	--	1
Hard maple	963	3	--	--	--	--	--	960
Soft maple	1,042	3	--	--	--	--	--	1,039
Red oak	7,035	391	--	--	645	--	--	5,999
White oak	217	11	--	--	20	--	--	186
Other hardwoods	2	2	--	--	--	--	--	--
All species	9,342	455	--	--	665	--	--	8,222
Leelanau County								
Jack pine	3	--	--	--	--	--	--	3
Red pine	4	--	--	--	--	--	--	4
White pine	1	--	--	--	--	--	--	1
Total	8	--	--	--	--	--	--	8
Ash	168	--	--	--	3	--	--	165
Aspen	15	--	--	--	--	--	--	15
Beech	776	--	--	--	144	--	--	632
Paper birch	23	--	--	--	3	--	--	20
Yellow birch	2	--	--	--	--	--	--	2
Cottonwood	8	--	--	--	--	--	--	8
Elm	7,997	--	--	--	--	--	--	7,997
Hard maple	1,126	--	--	--	21	--	--	1,105
Soft maple	1,221	--	--	--	23	--	--	1,198
Red oak	57	--	--	--	--	--	--	57
White oak	1	--	--	--	--	--	--	1
Other hardwoods	35	--	--	--	3	--	--	32
Noncommercial	448	--	--	--	6	--	--	442
Total	11,877	--	--	--	203	--	--	11,674
All species	11,885	--	--	--	203	--	--	11,682

(Table 2 continued on next page)

(Table 2 continued)

NORTHERN LOWER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Manistee County								
Jack pine	3	--	--	--	--	--	--	3
Red pine	4	--	--	--	--	--	--	4
White pine	1	--	--	--	--	--	--	1
Total	8	--	--	--	--	--	--	8
Ash	1,316	6	--	--	--	--	--	1,310
Aspen	1,873	4	--	--	800	--	--	1,069
Beech	8,071	3	--	--	44	--	--	8,024
Paper birch	3,223	6	--	--	878	--	--	2,339
Yellow birch	243	--	--	--	66	--	--	177
Cottonwood	8	--	--	--	--	--	--	8
Elm	14	6	--	--	--	--	--	8
Hard maple	3,350	14	--	--	63	--	--	3,273
Soft maple	3,627	14	--	--	68	--	--	3,545
Red oak	4,274	13	--	--	1,236	--	--	3,025
White oak	131	--	--	--	38	--	--	93
Other hardwoods	419	4	--	--	--	--	--	415
Noncommercial	2,739	--	--	--	--	--	--	2,739
Total	29,288	70	--	--	3,193	--	--	26,025
All species	29,296	70	--	--	3,193	--	--	26,033
Mason County								
Ash	133	133	--	--	--	--	--	--
Aspen	1,024	4	--	--	--	--	--	1,020
Basswood	133	--	--	--	--	--	--	133
Beech	5	--	--	--	3	--	--	2
Elm	988	--	--	--	--	--	--	988
Hard maple	2,251	--	--	--	244	--	--	2,007
Soft maple	2,437	--	--	--	263	--	--	2,174
Red oak	6,038	394	--	--	520	--	--	5,124
White oak	187	12	--	--	16	--	--	159
Other hardwoods	1,598	1	--	--	--	--	--	1,597
All species	14,794	544	--	--	1,046	--	--	13,204
Mecosta County								
Jack pine	1,795	--	--	--	--	--	--	1,795
Red pine	598	--	--	--	--	--	--	598
Total	2,393	--	--	--	--	--	--	2,393
Ash	213	--	--	--	--	--	--	213
Aspen	1,539	--	--	--	--	--	--	1,539
Paper birch	171	--	--	--	--	--	--	171
Yellow birch	13	--	--	--	--	--	--	13
Elm	639	--	--	--	--	--	--	639
Hard maple	1,685	--	--	--	5	--	--	1,680
Soft maple	1,824	--	--	--	5	--	--	1,819
Red oak	2,855	--	--	--	85	--	--	2,770
White oak	89	--	--	--	3	--	--	86
Other hardwoods	150	--	--	--	--	--	--	150
Total	9,178	--	--	--	98	--	--	9,080
All species	11,571	--	--	--	98	--	--	11,473

(Table 2 continued on next page)

(Table 2 continued)

NORTHERN LOWER PENINSULA

Species group	All ownerships	Federal		Indian	State	County and municipal	Forest industry	Other private
		National forest	Other					
Midland County								
Jack pine	176	--	--	--	--	--	--	176
Red pine	233	--	--	--	--	--	--	233
White pine	30	--	--	--	--	--	--	30
Total	439	--	--	--	--	--	--	439
Ash	1,025	--	--	--	--	--	--	1,025
Aspen	4,718	--	--	--	--	--	--	4,718
Paper birch	534	--	--	--	--	--	--	534
Yellow birch	41	--	--	--	--	--	--	41
Hard maple	897	--	--	--	--	--	--	897
Soft maple	969	--	--	--	--	--	--	969
Red oak	4,157	--	--	--	--	--	--	4,157
White oak	128	--	--	--	--	--	--	128
Total	12,469	--	--	--	--	--	--	12,469
All species	12,908	--	--	--	--	--	--	12,908
Missaukee County								
Ash	49	--	--	--	8	--	--	41
Aspen	650	--	--	--	1	--	--	649
Basswood	2,588	--	--	--	--	--	--	2,588
Beech	1,640	--	--	--	4	--	--	1,636
Paper birch	150	--	--	--	117	--	--	33
Yellow birch	11	--	--	--	9	--	--	2
Elm	36	--	--	--	1	--	--	35
Hard maple	997	--	--	--	131	--	--	866
Soft maple	1,081	--	--	--	143	--	--	938
Red oak	427	--	--	--	371	--	--	56
White oak	12	--	--	--	11	--	--	1
Other hardwoods	23	--	--	--	4	--	--	19
All species	7,664	--	--	--	800	--	--	6,864
Montmorency County								
Jack pine	128	--	--	--	--	--	--	128
Red pine	169	--	--	--	--	--	--	169
White pine	22	--	--	--	--	--	--	22
Total	319	--	--	--	--	--	--	319
Ash	5	--	--	--	--	--	--	5
Aspen	1,293	--	--	--	8	--	--	1,285
Beech	5	--	--	--	--	--	--	5
Paper birch	6,998	--	--	--	54	--	--	6,944
Yellow birch	526	--	--	--	5	--	--	521
Elm	50	--	--	--	25	--	--	25
Hard maple	2,230	--	--	--	187	--	--	2,043
Soft maple	2,416	--	--	--	203	--	--	2,213
Red oak	5,100	--	--	--	30	--	--	5,070
White oak	158	--	--	--	1	--	--	157
Noncommercial	50	--	--	--	25	--	--	25
Total	18,831	--	--	--	538	--	--	18,293
All species	19,150	--	--	--	538	--	--	18,612

(Table 2 continued on next page)

(Table 2 continued)

NORTHERN LOWER PENINSULA

Species group	All ownerships	Federal		Indian	State	County and municipal	Forest industry	Other private
		National forest	Other					
Newaygo County								
Ash	1,211	--	--	--	--	--	--	1,211
Aspen	1,817	--	--	--	--	--	--	1,817
Balsam poplar	1	--	--	--	--	--	--	1
Basswood	3	--	--	--	--	--	--	3
Beech	9	--	--	--	--	--	--	9
Paper birch	646	24	--	--	536	--	--	86
Yellow birch	49	2	--	--	41	--	--	6
Elm	175	--	--	--	--	--	--	175
Hard maple	1,413	--	--	--	--	--	--	1,413
Soft maple	1,530	--	--	--	--	--	--	1,530
Red oak	19,249	2,463	--	--	2,234	--	--	14,552
White oak	596	76	--	--	69	--	--	451
Walnut	6	--	--	--	--	--	--	6
Other hardwoods	951	--	--	--	--	--	--	951
Noncommercial	2	--	--	--	--	--	--	2
All species	27,658	2,565	--	--	2,880	--	--	22,213
Oceana County								
Ash	1	1	--	--	--	--	--	--
Aspen	38	20	--	--	--	--	--	18
Beech	1,331	1	--	--	--	--	--	1,330
Paper birch	3	2	--	--	--	--	--	1
Elm	1	1	--	--	--	--	--	--
Hard maple	2	1	--	--	--	--	--	1
Soft maple	2	1	--	--	--	--	--	1
Red oak	6,019	176	--	--	3,877	--	--	1,966
White oak	186	5	--	--	120	--	--	61
Other hardwoods	598	--	--	--	--	--	--	598
All species	8,181	208	--	--	3,997	--	--	3,976
Ogemaw County								
Red pine	4	--	--	--	--	--	--	4
Total	4	--	--	--	--	--	--	4
Ash	1,239	--	--	--	353	--	--	886
Aspen	4,127	--	--	--	341	--	--	3,786
Balsam poplar	14	--	--	--	--	--	--	14
Basswood	64	--	--	--	--	--	--	64
Beech	179	--	--	--	--	--	--	179
Paper birch	608	--	--	--	203	--	--	405
Yellow birch	44	--	--	--	15	--	--	29
Cottonwood	4	--	--	--	--	--	--	4
Elm	279	--	--	--	--	--	--	279
Hickory	92	--	--	--	--	--	--	92
Hard maple	1,073	--	--	--	419	--	--	654
Soft maple	1,162	--	--	--	457	--	--	705
Red oak	5,095	--	--	--	2,733	--	--	2,362
White oak	157	--	--	--	84	--	--	73
Other hardwoods	413	--	--	--	40	--	--	373
Noncommercial	30	--	--	--	--	--	--	30
Total	14,580	--	--	--	4,645	--	--	9,935
All species	14,584	--	--	--	4,645	--	--	9,939

(Table 2 continued on next page)

(Table 2 continued)

NORTHERN LOWER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Osceola County								
Ash	6	--	--	--	--	--	--	6
Aspen	3,315	--	--	--	--	--	--	3,315
Balsam poplar	1,797	--	--	--	--	--	--	1,797
Basswood	1	--	--	--	--	--	--	1
Beech	1	--	--	--	--	--	--	1
Hard maple	868	--	--	--	--	--	--	868
Soft maple	939	--	--	--	--	--	--	939
Red oak	91	--	--	--	--	--	--	91
White oak	2	--	--	--	--	--	--	2
Other hardwoods	1,798	--	--	--	--	--	--	1,798
All species	8,818	--	--	--	--	--	--	8,818
Oscoda County								
Jack pine	30	30	--	--	--	--	--	--
Red pine	40	40	--	--	--	--	--	--
White pine	5	5	--	--	--	--	--	--
Total	75	75	--	--	--	--	--	--
Aspen	114	100	--	--	--	--	--	14
Beech	13	13	--	--	--	--	--	--
Paper birch	286	--	--	--	283	--	--	3
Yellow birch	22	--	--	--	22	--	--	--
Hard maple	521	153	--	--	354	--	--	14
Soft maple	565	167	--	--	383	--	--	15
Red oak	2,437	1,355	--	--	1,013	--	--	69
White oak	76	42	--	--	32	--	--	2
Total	4,034	1,830	--	--	2,087	--	--	117
All species	4,109	1,905	--	--	2,087	--	--	117
Otsego County								
Elm	7,213	--	--	--	25	--	--	7,188
Hard maple	384	--	--	--	--	--	--	384
Soft maple	415	--	--	--	--	--	--	415
All species	8,012	--	--	--	25	--	--	7,987
Presque Isle County								
Aspen	2,931	--	--	--	--	--	--	2,931
Beech	1,994	--	--	--	--	--	--	1,994
Paper birch	3,166	--	--	--	--	--	--	3,166
Yellow birch	239	--	--	--	--	--	--	239
Hard maple	7,658	--	--	--	--	--	--	7,658
Soft maple	8,297	--	--	--	--	--	--	8,297
Red oak	128	--	--	--	--	--	--	128
White oak	4	--	--	--	--	--	--	4
All species	24,417	--	--	--	--	--	--	24,417

(Table 2 continued on next page)

(Table 2 continued)

NORTHERN LOWER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Roscommon County								
Jack pine	266	--	--	--	--	--	--	266
Total	266	--	--	--	--	--	--	266
Ash	829	--	--	--	812	--	--	17
Aspen	1,666	--	--	--	330	--	--	1,336
Basswood	1	--	--	--	1	--	--	--
Beech	4	--	--	--	2	--	--	2
Paper birch	628	--	--	--	246	186	--	196
Yellow birch	46	--	--	--	18	14	--	14
Elm	7	--	--	--	4	--	--	3
Hard maple	1,632	--	--	--	1,258	96	--	278
Soft maple	1,766	--	--	--	1,361	104	--	301
Red oak	12,570	--	--	--	9,533	--	--	3,037
White oak	388	--	--	--	295	--	--	93
Other hardwoods	5	--	--	--	3	--	--	2
Noncommercial	1	--	--	--	1	--	--	--
Total	19,543	--	--	--	13,864	400	--	5,279
All species	19,809	--	--	--	13,864	400	--	5,545
Wexford County								
Ash	27	6	--	--	13	--	--	8
Beech	12	3	--	--	5	--	--	4
Paper birch	13	6	--	--	--	--	--	7
Yellow birch	1	--	--	--	--	--	--	1
Elm	14	6	--	--	--	--	--	8
Hard maple	608	14	--	--	75	--	--	519
Soft maple	657	14	--	--	81	--	--	562
Red oak	4,122	6	--	--	76	--	--	4,040
White oak	127	--	--	--	2	--	--	125
Other hardwoods	15	3	--	--	8	--	--	4
All species	5,596	58	--	--	260	--	--	5,278

(Table 2 continued on next page)

(Table 2 continued)

NORTHERN LOWER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
				All Counties				
Balsam fir	400	--	--	--	--	--	--	400
Jack pine	3,226	35	--	--	356	--	4	2,831
Red pine	1,174	45	--	--	5	--	--	1,124
White pine	72	5	--	--	--	--	--	67
Total	4,872	85	--	--	361	--	4	4,422
Ash	29,963	151	--	--	1,945	--	--	27,867
Aspen	53,376	176	--	--	3,324	2,555	--	47,321
Balsam poplar	1,838	--	--	--	1	--	--	1,837
Basswood	8,291	--	--	--	225	--	--	8,066
Beech	23,331	24	--	--	1,504	--	--	21,803
Paper birch	26,682	45	--	--	2,608	186	--	23,843
Yellow birch	2,004	2	--	--	196	14	--	1,792
Cottonwood	573	--	--	--	13	--	--	560
Elm	36,370	19	--	--	3,694	--	--	32,657
Hickory	4,089	--	--	--	--	--	--	4,089
Hard maple	62,738	764	--	--	7,716	2,492	3	51,763
Soft maple	67,937	827	--	--	8,355	2,699	3	56,053
Red oak	156,594	7,558	--	--	41,296	5,461	184	102,095
White oak	4,838	232	--	--	1,279	169	6	3,152
Walnut	12	--	--	--	--	--	--	12
Other hardwoods	8,987	14	--	--	265	--	--	8,708
Noncommercial	4,538	--	--	--	104	--	--	4,434
Total	492,161	9,812	--	--	72,525	13,576	196	396,052
All species	497,033	9,897	--	--	72,886	13,576	200	400,474

(Table 2 continued on next page)

(Table 2 continued)

SOUTHERN LOWER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Allegan County								
Ash	619	--	--	--	3	1	--	615
Aspen	3,400	--	--	--	720	24	--	2,656
Beech	883	--	--	--	145	--	--	738
Paper birch	101	--	--	--	--	20	--	81
Yellow birch	19	--	--	--	--	4	--	15
Elm	120	--	--	--	--	24	--	96
Hickory	3,213	--	--	--	3	1	--	3,209
Hard maple	3,034	--	--	--	37	16	--	2,981
Soft maple	10,752	--	--	--	132	56	--	10,564
Red oak	6,018	--	--	--	1,813	54	--	4,151
White oak	4,184	--	--	--	1,260	38	--	2,886
Walnut	80	--	--	--	--	--	--	80
Other hardwoods	3,838	--	--	--	725	26	--	3,087
All species	36,261	--	--	--	4,838	264	--	31,159
Barry County								
Red pine	96	--	--	--	--	--	--	96
Total	96	--	--	--	--	--	--	96
Ash	467	--	--	--	18	4	--	445
Aspen	2,279	--	--	--	--	280	--	1,999
Beech	291	--	--	--	--	--	--	291
Elm	2,471	--	--	--	--	280	--	2,191
Hickory	624	--	--	--	18	564	--	42
Hard maple	1,134	--	--	--	1	492	--	641
Soft maple	4,024	--	--	--	1	1,747	--	2,276
Red oak	7,970	--	--	--	171	1,354	--	6,445
White oak	5,538	--	--	--	119	942	--	4,477
Walnut	919	--	--	--	--	--	--	919
Other hardwoods	428	--	--	--	35	7	--	386
Total	26,145	--	--	--	363	5,670	--	20,112
All species	26,241	--	--	--	363	5,670	--	20,208
Berrien County								
Ash	2,086	--	--	--	--	--	--	2,086
Aspen	675	--	--	--	67	--	--	608
Beech	22	--	--	--	9	--	--	13
Paper birch	10	--	--	--	--	--	--	10
Yellow birch	2	--	--	--	--	--	--	2
Cottonwood	4	--	--	--	--	--	--	4
Elm	4,029	--	--	--	--	--	--	4,029
Hickory	19	--	--	--	--	--	--	19
Hard maple	911	--	--	--	2	--	--	909
Soft maple	3,228	--	--	--	7	--	--	3,221
Red oak	3,387	--	--	--	3	--	--	3,384
White oak	2,355	--	--	--	2	--	--	2,353
Walnut	1	--	--	--	--	--	--	1
Other hardwoods	3,623	--	--	--	--	--	--	3,623
Noncommercial	2,243	--	--	--	--	--	--	2,243
All species	22,595	--	--	--	90	--	--	22,505

(Table 2 continued on next page)

(Table 2 continued)

SOUTHERN LOWER PENINSULA

Species group	All ownerships	Federal		Indian	State	County and municipal	Forest industry	Other private
		National forest	Other					
Branch County								
Aspen	185	--	--	--	--	--	--	185
Basswood	331	--	--	--	--	--	--	331
Beech	331	--	--	--	--	--	--	331
Paper birch	155	--	--	--	--	--	--	155
Yellow birch	30	--	--	--	--	--	--	30
Elm	185	--	--	--	--	--	--	185
Hard maple	908	--	--	--	--	--	--	908
Soft maple	3,215	--	--	--	--	--	--	3,215
Red oak	207	--	--	--	--	--	--	207
White oak	144	--	--	--	--	--	--	144
Other hardwoods	806	--	--	--	--	--	--	806
Noncommercial	331	--	--	--	--	--	--	331
All species	6,828	--	--	--	--	--	--	6,828
Calhoun County								
Jack pine	13	--	--	--	--	--	--	13
Red pine	46	--	--	--	--	--	--	46
White pine	21	--	--	--	--	--	--	21
Total	80	--	--	--	--	--	--	80
Ash	712	--	--	--	2	641	--	69
Aspen	3	--	--	--	--	--	--	3
Beech	4	--	--	--	--	--	--	4
Paper birch	206	--	--	--	--	--	--	206
Yellow birch	39	--	--	--	--	--	--	39
Cottonwood	1	--	--	--	--	--	--	1
Elm	45	--	--	--	--	--	--	45
Hickory	135	--	--	--	2	1	--	132
Hard maple	777	--	--	--	--	--	--	777
Soft maple	2,758	--	--	--	--	--	--	2,758
Red oak	6,707	--	--	--	14	1,514	--	5,179
White oak	4,660	--	--	--	10	1,053	--	3,597
Walnut	12	--	--	--	--	--	--	12
Other hardwoods	1,395	--	--	--	3	2	--	1,390
Total	17,454	--	--	--	31	3,211	--	14,212
All species	17,534	--	--	--	31	3,211	--	14,292
Cass County								
Ash	4,602	--	--	--	--	--	--	4,602
Aspen	1,123	--	--	--	--	--	--	1,123
Beech	2,245	--	--	--	--	--	--	2,245
Paper birch	6	--	--	--	--	--	--	6
Yellow birch	1	--	--	--	--	--	--	1
Cottonwood	1,121	--	--	--	--	--	--	1,121
Elm	2,690	--	--	--	--	--	--	2,690
Hickory	57	--	--	--	--	--	--	57
Hard maple	298	--	--	--	29	--	--	269
Soft maple	1,057	--	--	--	104	--	--	953
Red oak	3,983	--	--	--	--	--	--	3,983
White oak	2,767	--	--	--	--	--	--	2,767
Walnut	601	--	--	--	--	--	--	601
Other hardwoods	3,228	--	--	--	--	--	--	3,228
Noncommercial	154	--	--	--	--	--	--	154
All species	23,933	--	--	--	133	--	--	23,800

(Table 2 continued on next page)

(Table 2 continued)

SOUTHERN LOWER PENINSULA

Species group	All ownerships	Federal		Indian	State	County and municipal	Forest industry	Other private
		National forest	Other					
Clinton County								
Ash	20	--	--	--	--	--	--	20
Aspen	2	--	--	--	--	--	--	2
Basswood	4	--	--	--	--	--	--	4
Beech	1	--	--	--	--	--	--	1
Paper birch	1	--	--	--	--	--	--	1
Cottonwood	1,349	--	--	--	--	--	--	1,349
Elm	8,094	--	--	--	--	--	--	8,094
Hickory	1	--	--	--	--	--	--	1
Hard maple	718	--	--	--	--	--	--	718
Soft maple	2,543	--	--	--	--	--	--	2,543
Red oak	1,616	--	--	--	--	--	--	1,616
White oak	1,122	--	--	--	--	--	--	1,122
Other hardwoods	2,649	--	--	--	--	--	--	2,649
All species	18,120	--	--	--	--	--	--	18,120
Eaton County								
Ash	1,266	--	--	--	--	--	--	1,266
Beech	3,597	--	--	--	--	--	--	3,597
Cottonwood	600	--	--	--	--	--	--	600
Elm	3,964	--	--	--	--	--	--	3,964
Hard maple	220	--	--	--	--	--	--	220
Soft maple	780	--	--	--	--	--	--	780
Red oak	1,189	--	--	--	--	--	--	1,189
White oak	826	--	--	--	--	--	--	826
Other hardwoods	3,215	--	--	--	--	--	--	3,215
All species	15,657	--	--	--	--	--	--	15,657
Genesee County								
Aspen	400	--	--	--	--	--	--	400
Elm	460	--	--	--	--	--	--	460
Hard maple	55	--	--	--	--	--	--	55
Soft maple	197	--	--	--	--	--	--	197
Red oak	53	--	--	--	--	--	--	53
White oak	37	--	--	--	--	--	--	37
Other hardwoods	1,025	--	--	--	--	--	--	1,025
Noncommercial	132	--	--	--	--	--	--	132
All species	2,359	--	--	--	--	--	--	2,359
Gratiot County								
Jack pine	3	--	--	--	--	--	--	3
Red pine	12	--	--	--	--	--	--	12
White pine	5	--	--	--	--	--	--	5
Total	20	--	--	--	--	--	--	20
Ash	560	--	--	--	--	--	--	560
Aspen	524	--	--	--	--	--	--	524
Beech	560	--	--	--	--	--	--	560
Paper birch	6	--	--	--	--	--	--	6
Yellow birch	1	--	--	--	--	--	--	1
Elm	20	--	--	--	--	--	--	20
Hickory	10	--	--	--	--	--	--	10
Hard maple	932	--	--	--	--	--	--	932
Soft maple	3,304	--	--	--	--	--	--	3,304
Red oak	284	--	--	--	--	--	--	284
White oak	198	--	--	--	--	--	--	198
Other hardwoods	10	--	--	--	--	--	--	10
Total	6,409	--	--	--	--	--	--	6,409
All species	6,429	--	--	--	--	--	--	6,429

(Table 2 continued on next page)

(Table 2 continued)

SOUTHERN LOWER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Hillsdale County								
Ash	34	--	--	--	--	--	--	34
Aspen	1	--	--	--	--	--	--	1
Beech	2	--	--	--	--	--	--	2
Paper birch	104	--	--	--	--	--	--	104
Yellow birch	20	--	--	--	--	--	--	20
Cottonwood	1	--	--	--	--	--	--	1
Elm	1,743	--	--	--	--	--	--	1,743
Hickory	1,416	--	--	--	--	--	--	1,416
Hard maple	487	--	--	--	--	--	--	487
Soft maple	1,722	--	--	--	--	--	--	1,722
Red oak	2,398	--	--	--	--	--	--	2,398
White oak	1,666	--	--	--	--	--	--	1,666
Walnut	320	--	--	--	--	--	--	320
Other hardwoods	5,662	--	--	--	--	--	--	5,662
All species	15,576	--	--	--	--	--	--	15,576
Huron County								
Paper birch	1,679	--	--	--	--	--	--	1,679
Yellow birch	320	--	--	--	--	--	--	320
Elm	1,199	--	--	--	--	--	--	1,199
Hard maple	176	--	--	--	--	--	--	176
Soft maple	623	--	--	--	--	--	--	623
All species	3,997	--	--	--	--	--	--	3,997
Ingham County								
Balsam fir	1,199	--	--	--	--	--	--	1,199
Jack pine	64	--	--	--	--	--	--	64
Red pine	232	--	--	--	--	--	--	232
White pine	104	--	--	--	--	--	--	104
Total	1,599	--	--	--	--	--	--	1,599
Ash	1,059	--	--	--	--	--	--	1,059
Aspen	1,420	--	--	--	--	--	--	1,420
Basswood	10	--	--	--	--	--	--	10
Beech	17,232	--	--	--	--	--	--	17,232
Paper birch	668	--	--	--	--	--	--	668
Yellow birch	127	--	--	--	--	--	--	127
Elm	890	--	--	--	--	--	--	890
Hickory	3	--	--	--	--	--	--	3
Hard maple	896	--	--	--	--	--	--	896
Soft maple	3,174	--	--	--	--	--	--	3,174
Red oak	4,854	--	--	--	--	--	--	4,854
White oak	3,376	--	--	--	--	--	--	3,376
Walnut	248	--	--	--	--	--	--	248
Other hardwoods	8,292	--	--	--	--	--	--	8,292
Total	42,249	--	--	--	--	--	--	42,249
All species	43,848	--	--	--	--	--	--	43,848

(Table 2 continued on next page)

(Table 2 continued)

SOUTHERN LOWER PENINSULA

Species group	All ownerships	Federal		Indian	State	County and municipal	Forest industry	Other private
		National forest	Other					
Ionia County								
Jack pine	96	--	--	--	--	--	--	96
Red pine	348	--	--	--	--	--	--	348
White pine	156	--	--	--	--	--	--	156
Total	600	--	--	--	--	--	--	600
Ash	3	--	--	--	3	--	--	--
Aspen	260	--	--	--	--	--	--	260
Paper birch	24,174	--	--	--	--	--	--	24,174
Yellow birch	4,604	--	--	--	--	--	--	4,604
Elm	30,037	--	--	--	--	--	--	30,037
Hard maple	7,080	--	--	--	1	--	--	7,079
Soft maple	25,098	--	--	--	2	--	--	25,096
Red oak	2,410	--	--	--	6	--	--	2,404
White oak	1,677	--	--	--	4	--	--	1,673
Other hardwoods	9,136	--	--	--	3	--	--	9,133
Noncommercial	1,898	--	--	--	--	--	--	1,898
Total	106,377	--	--	--	19	--	--	106,358
All species	106,977	--	--	--	19	--	--	106,958
Jackson County								
Red pine	1	--	--	--	--	--	--	1
Total	1	--	--	--	--	--	--	1
Ash	95	--	--	--	--	--	--	95
Aspen	20	--	--	--	--	--	--	20
Basswood	9	--	--	--	--	--	--	9
Beech	27	--	--	--	--	--	--	27
Paper birch	360	--	--	--	--	--	--	360
Yellow birch	68	--	--	--	--	--	--	68
Cottonwood	9	--	--	--	--	--	--	9
Elm	1,267	--	--	--	--	--	--	1,267
Hickory	668	--	--	--	--	--	--	668
Hard maple	214	--	--	--	--	--	--	214
Soft maple	761	--	--	--	--	--	--	761
Red oak	3,968	--	--	--	--	--	--	3,968
White oak	2,759	--	--	--	--	--	--	2,759
Walnut	323	--	--	--	--	--	--	323
Other hardwoods	6,116	--	--	--	--	--	--	6,116
Noncommercial	107	--	--	--	--	--	--	107
Total	16,771	--	--	--	--	--	--	16,771
All species	16,772	--	--	--	--	--	--	16,772
Kalamazoo County								
Red pine	1	--	--	--	--	--	--	1
Total	1	--	--	--	--	--	--	1
Ash	912	--	--	--	8	1	--	903
Aspen	22	--	--	--	--	--	--	22
Beech	1,249	--	--	--	--	--	--	1,249
Paper birch	15	--	--	--	--	--	--	15
Yellow birch	3	--	--	--	--	--	--	3
Cottonwood	6	--	--	--	--	--	--	6
Elm	7,331	--	--	--	--	--	--	7,331
Hickory	3,491	--	--	--	8	1	--	3,482
Hard maple	1,833	--	--	--	--	2	--	1,831
Soft maple	6,502	--	--	--	--	8	--	6,494
Red oak	6,138	--	--	--	71	57	--	6,010
White oak	4,264	--	--	--	49	39	--	4,176
Walnut	1,693	--	--	--	--	--	--	1,693
Other hardwoods	27,119	--	--	--	16	88	--	27,015
Noncommercial	680	--	--	--	--	10	--	670
Total	61,258	--	--	--	152	206	--	60,900
All species	61,259	--	--	--	152	206	--	60,901

(Table 2 continued on next page)

(Table 2 continued)

SOUTHERN LOWER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Kent County								
Red pine	4,381	--	--	--	--	--	--	4,381
Total	4,381	--	--	--	--	--	--	4,381
Ash	232	--	--	--	--	--	--	232
Aspen	5,109	--	--	--	--	--	--	5,109
Beech	7,039	--	--	--	--	--	--	7,039
Paper birch	106	--	--	--	--	--	--	106
Yellow birch	20	--	--	--	--	--	--	20
Cottonwood	4	--	--	--	--	--	--	4
Elm	5,600	--	--	--	--	--	--	5,600
Hard maple	2,944	--	--	--	--	--	--	2,944
Soft maple	10,432	--	--	--	--	--	--	10,432
Red oak	16,293	--	--	--	--	--	--	16,293
White oak	11,324	--	--	--	--	--	--	11,324
Walnut	181	--	--	--	--	--	--	181
Other hardwoods	10,140	--	--	--	--	--	--	10,140
Noncommercial	18,611	--	--	--	--	--	--	18,611
Total	88,035	--	--	--	--	--	--	88,035
All species	92,416	--	--	--	--	--	--	92,416
Lapeer County								
Ash	2,998	--	--	--	--	--	--	2,998
Elm	120	--	--	--	--	--	--	120
Hard maple	176	--	--	--	--	--	--	176
Soft maple	623	--	--	--	--	--	--	623
Red oak	78	--	--	--	--	--	--	78
White oak	55	--	--	--	--	--	--	55
Noncommercial	200	--	--	--	--	--	--	200
All species	4,250	--	--	--	--	--	--	4,250
Lenawee County								
Ash	2,615	--	--	--	--	150	--	2,465
Aspen	777	--	--	--	--	--	--	777
Beech	2	--	--	--	--	--	--	2
Paper birch	102	--	--	--	--	--	--	102
Yellow birch	19	--	--	--	--	--	--	19
Cottonwood	1	--	--	--	--	--	--	1
Elm	4	--	--	--	--	--	--	4
Hickory	1,807	--	--	--	--	--	--	1,807
Hard maple	241	--	--	--	--	--	--	241
Soft maple	849	--	--	--	--	--	--	849
Red oak	3,882	--	--	--	--	--	--	3,882
White oak	2,697	--	--	--	--	--	--	2,697
Other hardwoods	2,478	--	--	--	--	--	--	2,478
All species	15,474	--	--	--	--	150	--	15,324
Livingston County								
Cottonwood	1,599	--	--	--	--	1,599	--	--
Elm	831	--	--	--	--	831	--	--
Red oak	5,187	--	--	--	--	1,887	--	3,300
White oak	3,605	--	--	--	--	1,311	--	2,294
Other hardwoods	767	--	--	--	--	767	--	--
All species	11,989	--	--	--	--	6,395	--	5,594

(Table 2 continued on next page)

(Table 2 continued)

SOUTHERN LOWER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Macomb County								
Red pine	3	--	--	--	--	--	--	3
Total	3	--	--	--	--	--	--	3
Ash	54	--	--	--	--	--	--	54
Aspen	48	--	--	--	--	--	--	48
Beech	73	--	--	--	--	--	--	73
Paper birch	67	--	--	--	--	--	--	67
Yellow birch	13	--	--	--	--	--	--	13
Cottonwood	25	--	--	--	--	--	--	25
Elm	206	--	--	--	--	--	--	206
Hard maple	314	--	--	--	--	--	--	314
Soft maple	1,112	--	--	--	--	--	--	1,112
Red oak	347	--	--	--	--	--	--	347
White oak	241	--	--	--	--	--	--	241
Walnut	10	--	--	--	--	--	--	10
Other hardwoods	285	--	--	--	--	--	--	285
Total	2,795	--	--	--	--	--	--	2,795
All species	2,798	--	--	--	--	--	--	2,798
Monroe County								
Red pine	1	--	--	--	--	--	--	1
Total	1	--	--	--	--	--	--	1
Ash	27	--	--	--	--	--	--	27
Aspen	24	--	--	--	--	--	--	24
Beech	36	--	--	--	--	--	--	36
Paper birch	33	--	--	--	--	--	--	33
Yellow birch	6	--	--	--	--	--	--	6
Cottonwood	12	--	--	--	--	--	--	12
Elm	103	--	--	--	--	--	--	103
Hard maple	36	--	--	--	--	--	--	36
Soft maple	127	--	--	--	--	--	--	127
Red oak	144	--	--	--	--	--	--	144
White oak	100	--	--	--	--	--	--	100
Walnut	5	--	--	--	--	--	--	5
Other hardwoods	145	--	--	--	--	--	--	145
Total	798	--	--	--	--	--	--	798
All species	799	--	--	--	--	--	--	799
Montcalm County								
Paper birch	2	1	--	--	--	--	--	1
Hard maple	35	--	--	--	--	35	--	--
Soft maple	125	--	--	--	--	125	--	--
Red oak	1,144	84	--	--	--	377	--	683
White oak	796	58	--	--	--	262	--	476
Other hardwoods	266	--	--	--	--	--	--	266
All species	2,368	143	--	--	--	799	--	1,426

(Table 2 continued on next page)

(Table 2 continued)

SOUTHERN LOWER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Muskegon County								
Red pine	9	--	--	--	--	--	--	9
Total	9	--	--	--	--	--	--	9
Ash	214	9	--	--	9	--	--	196
Aspen	1,030	--	--	--	--	--	--	1,030
Beech	230	--	--	--	--	--	--	230
Paper birch	211	--	--	--	--	--	--	211
Yellow birch	40	--	--	--	--	--	--	40
Cottonwood	78	--	--	--	--	--	--	78
Elm	651	--	--	--	--	--	--	651
Hard maple	961	2	--	--	2	--	--	957
Soft maple	3,407	7	--	--	7	--	--	3,393
Red oak	25,335	633	--	--	2,401	--	--	22,301
White oak	17,608	440	--	--	1,669	--	--	15,499
Walnut	31	--	--	--	--	--	--	31
Other hardwoods	913	--	--	--	--	--	--	913
Total	50,709	1,091	--	--	4,088	--	--	45,530
All species	50,718	1,091	--	--	4,088	--	--	45,539
Oakland County								
Red pine	2	--	--	--	--	--	--	2
Total	2	--	--	--	--	--	--	2
Ash	49	--	--	--	--	4	--	45
Aspen	44	--	--	--	--	4	--	40
Beech	67	--	--	--	--	6	--	61
Paper birch	61	--	--	--	--	6	--	55
Yellow birch	12	--	--	--	--	1	--	11
Cottonwood	23	--	--	--	--	2	--	21
Elm	4,418	--	--	--	27	17	--	4,374
Hard maple	560	--	--	--	--	6	--	554
Soft maple	1,989	--	--	--	--	21	--	1,968
Red oak	4,716	--	--	--	38	24	--	4,654
White oak	3,277	--	--	--	26	17	--	3,234
Walnut	9	--	--	--	--	1	--	8
Other hardwoods	5,648	--	--	--	--	24	--	5,624
Noncommercial	1,560	--	--	--	16	--	--	1,544
Total	22,433	--	--	--	107	133	--	22,193
All species	22,435	--	--	--	107	133	--	22,195
Ottawa County								
White pine	80	--	--	--	--	--	--	80
Total	80	--	--	--	--	--	--	80
Ash	600	--	--	--	--	600	--	--
Aspen	300	--	--	--	--	300	--	--
Hard maple	165	--	--	--	--	165	--	--
Soft maple	585	--	--	--	--	585	--	--
Red oak	2,870	--	--	--	--	442	--	2,428
White oak	1,997	--	--	--	--	308	--	1,689
Other hardwoods	1,132	--	--	--	--	600	--	532
Total	7,649	--	--	--	--	3,000	--	4,649
All species	7,729	--	--	--	--	3,000	--	4,729

(Table 2 continued on next page)

(Table 2 continued)

SOUTHERN LOWER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
Saginaw County								
Balsam fir	400	--	--	--	--	--	--	400
Jack pine	102	--	--	--	--	--	--	102
Red pine	371	--	--	--	--	--	--	371
White pine	167	--	--	--	--	--	--	167
Total	1,040	--	--	--	--	--	--	1,040
Ash	240	--	--	--	--	--	--	240
Aspen	573	--	--	--	--	--	--	573
Paper birch	1,215	--	--	--	1,007	--	--	208
Yellow birch	231	--	--	--	192	--	--	39
Cottonwood	333	--	--	--	--	--	--	333
Elm	7,812	--	--	--	400	--	6,335	1,077
Hard maple	2,188	--	--	--	--	--	1,353	835
Soft maple	7,754	--	--	--	--	--	4,796	2,958
Red oak	6,538	--	--	--	--	--	3,628	2,910
White oak	4,543	--	--	--	--	--	2,521	2,022
Other hardwoods	4,991	--	--	--	--	--	--	4,991
Noncommercial	333	--	--	--	--	--	--	333
Total	36,751	--	--	--	1,599	--	18,633	16,519
All species	37,791	--	--	--	1,599	--	18,633	17,559
St Clair County								
Jack pine	96	--	--	--	--	--	--	96
Red pine	348	--	--	--	--	--	--	348
White pine	156	--	--	--	--	--	--	156
Total	600	--	--	--	--	--	--	600
Aspen	3,298	--	--	--	--	--	--	3,298
Paper birch	1,511	--	--	--	--	--	--	1,511
Yellow birch	288	--	--	--	--	--	--	288
Hard maple	1,957	--	--	--	--	--	--	1,957
Soft maple	6,936	--	--	--	--	--	--	6,936
Red oak	471	--	--	--	--	--	--	471
White oak	328	--	--	--	--	--	--	328
Total	14,789	--	--	--	--	--	--	14,789
All species	15,389	--	--	--	--	--	--	15,389
St Joseph County								
Red pine	3	--	--	--	--	--	--	3
Total	3	--	--	--	--	--	--	3
Ash	116	--	--	--	--	--	--	116
Aspen	50	--	--	--	--	--	--	50
Beech	76	--	--	--	--	--	--	76
Paper birch	70	--	--	--	--	--	--	70
Yellow birch	13	--	--	--	--	--	--	13
Cottonwood	26	--	--	--	--	--	--	26
Elm	1,335	--	--	--	--	--	--	1,335
Hickory	60	--	--	--	--	--	--	60
Hard maple	792	--	--	--	--	--	--	792
Soft maple	2,808	--	--	--	--	--	--	2,808
Red oak	4,865	--	--	--	--	--	--	4,865
White oak	3,382	--	--	--	--	--	--	3,382
Walnut	10	--	--	--	--	--	--	10
Other hardwoods	365	--	--	--	--	--	--	365
Total	13,968	--	--	--	--	--	--	13,968
All species	13,971	--	--	--	--	--	--	13,971

(Table 2 continued on next page)

(Table 2 continued)

SOUTHERN LOWER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
				Tuscola County				
Ash	3,993	--	--	--	--	--	--	3,993
Aspen	532	--	--	--	--	--	--	532
Basswood	375	--	--	--	--	--	--	375
Cottonwood	6,235	--	--	--	--	--	--	6,235
Elm	1,923	--	--	--	--	--	--	1,923
Hard maple	457	--	--	--	--	--	--	457
Soft maple	1,621	--	--	--	--	--	--	1,621
Red oak	1,226	--	--	--	--	--	--	1,226
White oak	852	--	--	--	--	--	--	852
All species	17,214	--	--	--	--	--	--	17,214
				Van Buren County				
Red pine	9	--	--	--	--	--	--	9
Total	9	--	--	--	--	--	--	9
Ash	196	--	--	--	--	--	--	196
Aspen	143	--	--	--	--	--	--	143
Beech	236	--	--	--	--	--	--	236
Paper birch	200	--	--	--	--	--	--	200
Yellow birch	38	--	--	--	--	--	--	38
Cottonwood	74	--	--	--	--	--	--	74
Elm	785	--	--	--	--	--	--	785
Hickory	18	--	--	--	--	--	--	18
Hard maple	386	--	--	--	5	--	--	381
Soft maple	1,370	--	--	--	18	--	--	1,352
Red oak	1,932	--	--	--	252	--	--	1,680
White oak	1,343	--	--	--	176	--	--	1,167
Walnut	72	--	--	--	--	--	--	72
Other hardwoods	3,574	--	--	--	--	--	--	3,574
Total	10,367	--	--	--	451	--	--	9,916
All species	10,376	--	--	--	451	--	--	9,925
				Washtenaw County				
Ash	820	--	--	--	--	--	--	820
Aspen	94	--	--	--	16	--	--	78
Beech	3	--	--	--	2	--	--	1
Paper birch	190	--	--	--	--	--	--	190
Yellow birch	36	--	--	--	--	--	--	36
Cottonwood	100	--	--	--	--	--	--	100
Elm	841	--	--	--	45	--	--	796
Hard maple	2,046	--	--	--	--	--	--	2,046
Soft maple	7,255	--	--	--	2	--	--	7,253
Red oak	5,557	--	--	--	65	--	--	5,492
White oak	3,861	--	--	--	44	--	--	3,817
Other hardwoods	6,149	--	--	--	--	--	--	6,149
Noncommercial	45	--	--	--	27	--	--	18
All species	26,997	--	--	--	201	--	--	26,796

(Table 2 continued on next page)

(Table 2 continued)

SOUTHERN LOWER PENINSULA

Species group	All ownerships	Federal		Indian	State	County and municipal	Forest industry	Other private
		National forest	Other					
				Wayne County				
Red pine	1,201	--	--	--	--	--	--	1,201
Total	1,201	--	--	--	--	--	--	1,201
Ash	631	--	--	--	--	--	--	631
Aspen	27	--	--	--	--	--	--	27
Beech	42	--	--	--	--	--	--	42
Paper birch	38	--	--	--	--	--	--	38
Yellow birch	7	--	--	--	--	--	--	7
Cottonwood	14	--	--	--	--	--	--	14
Elm	7,887	--	--	--	--	1,400	--	6,487
Hard maple	841	--	--	--	--	--	--	841
Soft maple	2,984	--	--	--	--	--	--	2,984
Red oak	3,654	--	--	--	--	--	--	3,654
White oak	2,541	--	--	--	--	--	--	2,541
Walnut	6	--	--	--	--	--	--	6
Other hardwoods	1,800	--	--	--	--	--	--	1,800
Noncommercial	1,542	--	--	--	--	--	--	1,542
Total	22,014	--	--	--	--	1,400	--	20,614
All species	23,215	--	--	--	--	1,400	--	21,815

(Table 2 continued on next page)

(Table 2 continued)

SOUTHERN LOWER PENINSULA

Species group	All ownerships	Federal: National forest	Federal: Other	Indian	State	County and municipal	Forest industry	Other private
				All Counties				
Balsam fir	1,599	--	--	--	--	--	--	1,599
Jack pine	374	--	--	--	--	--	--	374
Red pine	7,064	--	--	--	--	--	--	7,064
White pine	689	--	--	--	--	--	--	689
Total	9,726	--	--	--	--	--	--	9,726
Ash	25,220	9	--	--	43	1,401	--	23,767
Aspen	22,363	--	--	--	803	608	--	20,952
Basswood	729	--	--	--	--	--	--	729
Beech	34,248	--	--	--	156	6	--	34,086
Paper birch	31,291	1	--	--	1,007	26	--	30,257
Yellow birch	5,957	--	--	--	192	5	--	5,760
Cottonwood	11,615	--	--	--	--	1,601	--	10,014
Elm	97,061	--	--	--	472	2,552	6,335	87,702
Hickory	11,522	--	--	--	31	567	--	10,924
Hard maple	33,772	2	--	--	77	716	1,353	31,624
Soft maple	119,715	7	--	--	273	2,542	4,796	112,097
Red oak	135,421	717	--	--	4,834	5,709	3,628	120,533
White oak	94,123	498	--	--	3,359	3,970	2,521	83,775
Walnut	4,521	--	--	--	--	1	--	4,520
Other hardwoods	115,195	--	--	--	782	1,514	--	112,899
Noncommercial	27,836	--	--	--	43	10	--	27,783
Total	770,589	1,234	--	--	12,072	21,228	18,633	717,422
All species	780,315	1,234	--	--	12,072	21,228	18,633	727,148

Table 3.--Fuelwood production from roundwood by Forest Survey Unit, county, and source of material, Michigan, 1986

(In standard cords) 1/

Unit and county	Total all sources	From timberland: Total from timberland	Growing stock trees: Tops and limbs: Boles	Growing stock trees: Tops and limbs: Tops and limbs	Growing stock trees: Saplings	Cull trees	Dead trees	Non-timberland
EASTERN UPPER PENINSULA								
Alger	18,538	18,434	8,060	7,347	61	1,010	1,956	104
Chippewa	37,286	37,089	22,303	11,986	100	1,648	1,052	197
Delta	10,689	9,943	3,843	2,861	24	393	2,822	746
Luce	4,811	4,811	2,011	2,444	20	336	0	0
Mackinac	11,399	11,201	4,785	2,610	22	359	3,425	198
Menominee	11,117	11,117	3,303	2,225	19	306	5,264	0
Schoolcraft	3,791	3,791	820	1,407	12	193	1,359	0
All Counties	97,631	96,386	45,123	30,880	258	4,246	15,878	1,245
WESTERN UPPER PENINSULA								
Baraga	6,871	6,272	2,773	2,269	19	312	899	599
Dickenson	4,992	4,003	729	892	7	123	2,252	989
Gogebic	29,616	22,069	4,399	5,599	47	770	11,255	7,547
Houghton	15,724	15,625	7,107	5,705	48	785	1,980	99
Iron	23,776	22,243	3,456	4,566	38	628	13,555	1,533
Keweenaw	8,528	7,915	2,084	4,916	41	676	198	613
Marquette	23,611	21,033	6,916	7,254	61	997	5,805	2,578
Ontonagon	10,317	10,317	3,541	2,669	22	367	3,718	0
All Counties	123,435	109,477	31,003	33,871	283	4,657	39,662	13,958
NORTHERN LOWER PENINSULA								
Alcona	5,314	5,314	166	310	3	43	4,793	0
Alpena	8,184	3,193	1,005	515	4	71	1,597	4,991
Antrim	2,552	2,552	76	44	0	6	2,426	0
Arenac	6,813	6,413	1,022	524	4	72	4,791	400
Bay	13,337	9,685	3,824	1,960	16	270	3,615	3,652
Benzie	3,040	2,839	1,721	971	8	133	6	201
Charlevoix	11,541	11,541	4,876	3,494	29	480	2,661	0
Cheboygan	18,972	6,387	1,984	1,017	9	140	3,238	12,585
Clare	30,486	28,090	3,860	3,968	33	546	19,683	2,396
Crawford	14,138	14,138	3,692	2,883	24	396	7,142	0
Emmet	29,560	29,162	12,498	6,737	56	926	8,945	398
Gladwin	38,371	32,905	13,653	9,622	80	1,323	8,226	5,466
Grand Traverse	10,756	7,193	1,059	547	5	75	5,507	3,563
Iosco	16,573	16,573	4,131	2,287	19	314	9,822	0
Isabella	27,315	26,983	10,427	5,344	45	735	10,433	332
Kalkaska	22,283	21,039	5,157	4,558	38	627	10,659	1,244
Lake	9,342	9,342	1,678	880	7	121	6,656	0
Leelanau	11,885	11,770	974	1,408	12	194	9,183	115
Manistee	29,296	29,216	10,777	12,313	103	1,693	4,329	80
Mason	14,794	7,544	1,323	1,555	13	214	4,439	7,250
Mecosta	11,571	9,628	3,485	2,401	20	330	3,392	1,943
Midland	12,908	12,060	1,832	959	8	132	9,129	848
Missaukee	7,664	7,664	4,803	2,463	21	339	39	0
Montgomeery	19,150	19,145	7,380	3,808	32	524	7,401	5
Newaygo	27,658	25,068	6,327	3,401	28	468	14,844	2,590
Oceana	8,181	6,851	1,780	938	8	129	3,997	1,330

(Table 3 continued on next page)

(Table 3 continued)

Unit and county	Total all sources	From timberland: Total from timberland	Growing stock trees: Boles	Tops and limbs	Saplings	Cull trees	Dead trees	Non-timberland
(Northern Lower Peninsula continued)								
Ogemaw	14,584	14,584	3,621	2,257	19	310	8,377	0
Osceola	8,818	1,630	18	11	0	1	1,600	7,188
Oscoda	4,109	4,109	1,814	1,227	10	169	889	0
Otsego	8,012	8,012	0	0	0	0	8,012	0
Presque Isle	24,417	24,417	12,564	6,440	54	885	4,474	0
Roscommon	19,809	19,764	6,255	4,722	40	649	8,098	45
Wexford	5,596	5,596	244	125	1	17	5,209	0
All counties	497,029	440,407	134,025	89,688	750	12,332	203,612	56,622
SOUTHERN LOWER PENINSULA								
Allegan	36,261	26,672	8,927	8,638	72	1,188	7,846	9,589
Barry	26,241	16,382	4,493	2,946	25	405	8,513	9,859
Berrien	22,595	15,145	7,159	4,206	35	578	3,166	7,450
Branch	6,828	4,163	927	475	4	65	2,692	2,665
Calhoun	17,534	16,702	8,905	5,006	42	688	2,061	832
Cass	23,933	14,590	4,976	3,889	33	535	5,158	9,343
Clinton	18,120	100	58	32	0	4	5	18,020
Eaton	15,657	6,320	2,143	1,099	9	151	2,918	9,337
Genesee	2,359	0	0	0	0	0	0	2,359
Gratiot	6,429	6,429	2,871	1,490	12	205	1,851	0
Hillsdale	15,576	4,410	257	370	3	51	3,729	11,166
Huron	3,997	0	0	0	0	0	0	3,997
Ingham	43,848	23,529	5,211	2,719	23	374	15,203	20,319
Ionia	106,977	105,977	52,961	43,683	365	6,007	2,961	1,000
Jackson	16,772	6,619	3,485	2,029	17	279	809	10,153
Kalamazoo	61,259	21,551	3,302	3,323	28	457	14,442	39,708
Kent	92,416	46,790	16,516	10,497	88	1,443	18,246	45,626
Lapeer	4,250	3,997	0	0	0	0	3,997	253
Lenawee	15,474	6,942	1,777	1,156	10	159	3,841	8,532
Livingston	11,989	5,594	0	0	0	0	5,594	6,395
Macomb	2,798	0	0	0	0	0	0	2,798
Monroe	799	799	503	258	2	35	0	0
Montcalm	2,368	1,037	366	586	5	81	0	1,331
Muskegon	50,716	42,378	17,953	11,662	98	1,604	11,062	8,338
Oakland	22,435	2,575	628	322	3	44	1,578	19,860
Ottawa	7,729	2,598	1,205	1,216	10	167	0	5,131
Saginaw	37,791	29,005	7,336	4,177	35	574	16,883	8,786
St Clair	15,389	12,651	5,167	2,648	22	364	4,450	2,738
St Joseph	13,973	7,877	3,513	1,800	15	248	2,301	6,096
Tuscola	17,214	5,324	2,516	1,289	11	177	1,331	11,890
Van Buren	10,376	7,286	3,621	1,980	17	272	1,396	3,090
Washtenaw	26,997	14,676	6,097	3,215	27	442	4,895	12,321
Wayne	23,215	256	0	0	0	0	256	22,959
All counties	780,315	458,374	172,873	120,710	1,010	16,598	147,184	321,941
STATE TOTAL	1,498,410	1,104,644	383,024	275,149	2,302	37,834	406,336	393,766

1/ Standard cords are 128 cubic feet consisting of 79 cubic feet of wood and 49 cubic feet of bark and air space.

Table 4.-- Fuelwood production distribution for other hardwood and noncommercial species groups by individual species and Forest Survey Unit, Michigan, 1986

(In standard cords)1/

Species	All units	Western Upper Peninsula	Eastern Upper Peninsula	Northern Lower Peninsula	Southern Lower Peninsula
OTHER HARDWOODS					
Sycamore	905	0	0	0	905
Willow	26,012	396	0	1,487	24,129
Cherry 2/	78,161	226	734	7,017	70,184
Boxelder	11,210	0	0	0	11,210
Locust	2,250	0	0	0	2,250
Mulberry	109	0	0	0	109
Unspecified hardwoods	7,283	170	222	483	6,408
Total	125,930	792	956	8,987	115,195
NONCOMMERCIAL					
Apple	26,749	0	0	596	26,153
Pear	4,453	0	0	3,853	600
Ironwood	712	0	181	0	531
Plum	132	0	0	0	132
Russian olive	266	0	0	0	266
Dogwood	154	0		0	154
Total	32,562	0	188	4,538	27,836

1/ Standard cords are 128 cubic feet consisting of 79 cubic feet of wood and 49 cubic feet of bark and air space.

2/ May include substantial quantities of noncommercial cherry species.

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Smith, W. Brad; Weatherspoon, Anthony.
1990. **Production and sources of residential fuelwood from roundwood in Michigan**. Resour. Bull. NC-122. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 76 p.

Discusses and analyzes 1986 fuelwood production from roundwood in Michigan. Analyzes production by geographic area, type of producer, species, landowner class, type of land, and tree source.

KEY WORDS: Growing stock, households, commercial producer, private land.

Our job at the North Central Forest Experiment Station is discovering and creating new knowledge and technology in the field of natural resources and conveying this information to the people who can use it. As a new generation of forests emerges in our region, managers are confronted with two unique challenges: (1) Dealing with the great diversity in composition, quality, and ownership of the forests, and (2) Reconciling the conflicting demands of the people who use them. Helping the forest manager meet these challenges while protecting the environment is what research at North Central is all about.